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ABSTRACT

These proceedings consist of 62 papers in English and 11 in Turkish. Selected papers are as follows: "Achieving Quality through Transnational Co-operation" (Carpanter); "Improving the Quality of Vocational Education through International Collaboration and Comparisons" (Lasonen); "In Pursuit of Quality Vocational Education and Training [VET]" (Niven); "Industry-Education Co-operation for Relevance and Quality Assurance [QA] in Technical VET in Asia" (Basu); "Total Quality Improvement in VE" (Boardman); "Total Quality Management Based Instructional and Evaluation Strategies for the Vocational-Technical Education (VTE)" (Chao); "Improving Quality of VTE in Turkey" (Dogan); "Quality Studies in the Technical Education System in the United Kingdom and a Model for Turkiye" (Balci); "Trends on Secondary VTE" (Fer); "Importance of the Internet for Effective Development of VET" (Merickel, Daud); "Skill Standard Development for the QA of the Occupational Competency" (Kim); "QA Issues in Flexible Programming" (Daines); "Standards of Quality for the Preparation and Certification of Trade and Industrial Education Teachers" (Kraska); "Scottish Quality Management System" (Gunning); "Accreditation of Technical and VET in Germany" (Roesch); "Maintaining Quality in the Development of VE Programmes" (Parkin); "QA and Occupational Competence of Intercultural Bridgemakers in VE" (Sever); "Vo-Tech Education Reform in Tech Prep" (Bull); "Changing Face of VE in the United States" (Matthews); "Successful Use of Technology in the Improvement of Vo-Tech Education" (Prescott, Jennings); "Long Distance Learning for Technical Education" (Mistikoglu, Ornektekin); "Study on the Vocational High School Students in Taiwan" (Chou); "Development of Occupational Standards with Regards to Vocational Training" (Akpinar, Bisel); "Collaborative Learning in Cyberspace" (Majumdar); "Quick Start" (Burdette); "Contemporary Issues in Performance Measurement for VET Policy" (Ngui, Grannall); "Increasing the Productivity of VTE by Means of Multimedia Tools" (Ayvaz); "Experiences through Quality Management at Baskent University-Vocational School of Technology" (Yilmaz, Turmen); "Improvement of Quality of Education in

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Technical Training Colleges and the Effects of Technology" (Simsek, Akyuz); "Competence and QA of Education in Vocational Colleges" (Erdem, Acikgoz); "METGE (VTE Development) Project" (Erhun); "Shaping Curricula in VE" (Penmen, Ferendeci); "Collaboration of Industrial and Educational Institutions" (Unal, Boymukisa); and "Quality Matters in International VET" (Caglar). (YLB)

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Quality Matters in International Vocational Education and Training

31st August - 2nd September 1998

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CONTENTS

PREFACE xvii
PREFACE IN TURKISH xix

Jean Decker MATHEWS
Opening Speech of the Conference 1

Paddy CARPANTER
Achieving Quality Through Transnational Co-operation: Some European Perspectives 3

Johanna LASONEN
Improving the Quality of Vocational Education Through International Collaboration and Comparisions 10

Stuart NIVEN
In Pursuit of Quality Vocational Education and Training: Some International Perspectives 17

Chiranjib Kumar BASU
Industry-Education Co-operation for Relevance and Quality Assurance in Technical Vocational Education and Training in Asia ... 23

Philip LOOTS
A Ciritical Analysis of the Restructuring of the Further Education and Training Sector in the New South Africa 28

Derek BOARDMAN
Total Quality Improvement in Vocational Education 35

Chao,Chih-YANG
A Total Quality Management Based Instructional and Evaluation
Strategies for the Vocational-Technical Education 43

Hıfzı DOĞAN
Improving Quality of Vocational and Technical Education in Turkey 48

Sabahattin BALCI
The Quality Studies in the Technical Education System in the
United Kingdom and A Model for Türkiye 59

Rıza GÜRBÜZ
Two Years College & The Foundation of İstanbul Chamber of Industry
Cooperation for Quality Assurance in Technical Vocational Education
and Training in Türkiye 66

Harun BATIRBAYGİL
Lessons From A Pilot Attempt on Accreditation of
Universities in Turkiye: A Case Study 75

Seval FER
Trends on Secondary Vocational and Technical Education 81

Mark MERICKEL and Darni DAUD
The Importance of the Internet for Effective Development
of Vocational Education and Training 88

11

C.Ruhi KAYKAYOĞLU
MESS Education Foundation's Agenda and Vision for
Year-2000 in Turkey 92

Dar Chin RAU, Chin-Wen LIAO
The Evaluation & Survery to the Needs of Practice Facilities Required
by Industrial Departments for Vocational Schools in Taiwan 99

Pan WOOK KIM
The Skill Standard Development for the Quality
Assurance of the Occupational Competency 109

Jeanette R. DAINES
Quality Assurance Issuess in Flexible Programming 117

Marie F.KRASKA
Standards of Quality for the Preparation and Certification
of Trade and Industrial Education Teachers 124

Dennis GUNNING
The Scottish Quality Management System 132

Guenter ROESCH
Accreditation of Technical and Vocational Education
and Training in Germany 144

Charles SOL, M. BLOCH, J.M. PAJOT
Some Aspects of the Company-University Relations in
Engineers Alternative Training 150

Christopher PARKIN
Maintaining Quality in the Development of
Vocational Education Programmes 156

Rita SEVER
Quality Assurance and Occupational Competence of Intercultural
Bridgemakers in Vocational Education 164

Riita-Liisa REITERA, Paula MATTILA
Institutional Management By Competencies and
Partnership Quality Assurance of Learning, The
Core Process In Espoo-Vantaa Polytechnic 175

Daniel HULL
Vo-Tech Education Reform in Tech Prep:
What has been accomplished? What remains to be accomplished 181

Lai Fong HO
Enhancing the Quality of Student's Experience in a
Franchaised Course 190

Hsi-Chi HSIAO and Jen-Chia CHANG
Problems and Strategies for the Implementation
of Project Work in Junior Colleges in Taiwan 202

Anne L. MATTHEWS
The Changing Face of Vocational Education in the United States 209

Julie GREVELLE
Professional Development: More than a Workshop 213

Carolyn PRESCOTT, Frank JENNINGS
The Successful Use of Technology in the
Improvement of Vo-Tech Education 223

Selçuk MISTIKOĞLU-Sermin ÖRNEKTEKİN
Long distance Learning for Technical Education 236

David CHOU
A Study on the Vocational High School Students in Taiwan 244

George COPA, Bruce JILK, Tom De GRAAFF,
Sharon GROSSBACH
New Designs for Vocational Education and Training at the Upper
Secondary and Postsecondary Levels of Education 250

Edgar FARMER
Benchmarking Postsecondary Technical Programs in
Community Colleges and Two-Year Proprietary Institutions 269

Robert NORTON
Quality Instruction for the High Performance Workplace: DACUM. 275
Quality Instruction Requires High Quality Materials: SCID

Aişe AKPINAR, Firuzan BISEL
Development of Occupational Standards
with Regards to Vocational Training 289

Shyamal MAJUMDAR
Collaborative Learning in Cyber Space: A paradigm shift 297

Clarence E.BURDETTE
QUICK START Customized Company Specific/Job
Specific Training Programs 304

Matt NGUI and Ray GRANNALL
Contemporary Issues in Performance Measurement for Vocational
Education and Training Policy: An Australian Example........................ 312

Tuula IKONEN
Sotekeko-A Multiprofessional Project in Vantaa, Finland New working
models for social and health care professionals and educators........... 320

Raphael BERDUGO
AFPA Traning Course Design 327

Şerif GÜNEŞ
Supporting of the Vocational Education Development by Industries
and Model of "Training Simulator for Process Technologies"........... 334

Gülgün BANGİR
Proficiency of Candidate Teachers Who Are Going to
Work in Industry, in Order to Identify Their Requirements,
to Develop Program to Towards Application and Evaluation 341

Coşkun BAYRAK and Esmahan AĞAOĞLU
The Evaluation of Views Related to
Educators-Business Managers Cooperation........................ 351

Zerrin AYVAZ
Increasing the Productivity of Vocational and Technical Education By
Means Of Multimedia Tools: Winschool........................ 358

Aynur BÜTÜN –Neriman ARAL

A Study on the Vocational Interest of Girls Attending General and Girls Vocational High Schools from Various Social Economic Levels 364

M.Nuri BODUR, Bilal ÖNAL, Abdullah SOYSAL

General Situations of Vocational Higher Schools and Some Proposals in Order to Increase the Education Quality 371

Hüseyin ŞALVARLI

Constituting of Country Model in Vocational and Technical Education and Some Aspects on Its Future 378

Ruşen YAMAÇLI, Leyla Yekdane TOKMAN

The Affection of Politics For Architectural Education to Occupational Quality in Globalisation 385

Derya YILMAZ, Ahmet TÜRMEN

Experiences Through Quality Management At Baskent University-Vocational School of Technology 392

Muhittin ŞİMŞEK, Birol AKYÜZ

The Improvement of Quality of Education in Technical Training Colleges and the Effects of Technology 398

Aytekin ERDEM, Ali F. AÇIKGÖZ

Competence and Quality Assurance of Education in Vocational Colleges 404

Seçil ŞATIR

Creativity and Design From the Aspect of International Quality in Professional and Technical Education 411

16

Nuran ZENGİNGÖNÜL, Müjgan BAYSAL

Influence of the Vocational Guidance and Advisory Services on Correct Profession Choice and Quality and A Research on the Education Related Therewith 419

Gülgün ERHUN

METGE (Vocational and Technical Education Development) Project 426

Nermin FENMEN, Meltem FERENDECİ

Shaping Curricula in Vocational Education 433

Perin ÜNAL, Bilhan BOYNUKISA

Collaboration of Industrial and Educational Institutions: Model of ASELSAN 438

Hıfzı DOĞAN, Ferda AKGÜL, Demet H. SOMUNCUOĞLU

Contemporary Approach to Establish the Framework with Common Base of Secondary Education Curriculums 448

M. Süheyil ÇİYAN

National Education System Formal And Non-Formal Education 456

Hayrettin KARCI

Expectations of the Modern Plants in Turkey on Production and Maintenance Specialization 465

Bora ÇAĞLAR

Quality Matters in International Vocational Education and Training 472

Papers in Turkish

Rıza GÜRBÜZ
Türkiye'de Mesleki ve Teknik Eğitimde Uluslararası Kalite Temini İçin Bir Öneri 479

Oğul ZENGİNGÖNÜL
21. Yüzyıla Doğru Avrupa Birliği'nde Mesleki-Teknik Eğitimde Yeni Yaklaşımlar ve Türkiye İçin Bir Uyum Analizi 488

Adil KARAMAN
Avrupa Birliği'nin Mesleki ve Teknik Eğitimde Dışa Açılma Politikası ve Türkiye 498

İrfan ÇAĞLAR
Eğitim Yönetiminde Toplam Kalite Anlayışının Hizmet Verimliliğine Katkısı ve Çorum Meslek Yüksekokulu Uygulaması 508

Abdil KUŞ – Rıdvan ARSLAN
Toplam Kalite Anlayışının Meslek Yüksekokullarında Uygulanması 517

Necmettin YEŞİLMEN
Mesleki ve Teknik Eğitimde Modüler Yaklaşım 524

İrfan ONAY
Örgütsel Öğrenmeye Hazır Öğrencilerin Yetiştirilmesinde Fırsatlar . 534

Ömer Faruk UYSAL
Hava Kuvvetleri Komutanlığının Toplam Kalite Anlayışı ve Bu Konudaki Çalışmaları 540

Hüseyin BULGURCU- Mustafa Ali ERTÜRK
Meslek Yüksekokullarında Kaliteli Eğitim İçin Müfredat Programı İle Atelye ve Laboratuvarların Uyumluluğu 546

Şeref KAVAK-Ganite KURT
Türkiye'de Muhasebe Mesleği ve Eğitiminde Kaliteyi Artırıcı Çalışmalar 555

Ruhi KILIÇ
İşverenlerin Kaliteli Genç İşgücü Yetiştirmede Mesleki Teknik Eğitim Kurumlarından Beklentileri 565

CONFERENCE PROGRAMME 573

AUTHOR INDEX 579

IVETA CONFERENCE 98
Ankara-TÜRKİYE

PREFACE (1)

The International Vocational Education and Training Association((IVETA))holds every year two conferences that attract researchers, teachers, administrators and decision makers involved in vocational education and training.

Yearly IVETA Conference convenes in the USA in connection with the Annual Convention of American Vocational Association (AVA) in December in USA.

The IVETA 98 Conference takes place on August 31,September 2,1998 in Ankara-TÜRKİYE

The IVETA 98 Conference has been organized by:

- ***Ankara University, Çankırı College of Arts and Technology***
- ***Ministry of National Education (MONE) (Vocational Technical Education Research and Development Center)***
- ***The Higher Education Council of TÜRKİYE (The Head of the YÖK-World Bank, Industrial Education Project)***
- ***The Foundation of Chamber of Industry (ISOV)***
- ***British Council in Türkiye***
- ***The Foundation of the Education of MESS***

Themes of the conference:

- ***Accredation of Systems,Programmes and Institutions***
- ***Quality Assurance and Occupation Competence***
- ***Industry Based Education,partnerships and Training***
- ***Standarts of Performance for Professionals, Higher Technicians,Technicians and Craftspeople***
- ***Vocational Guidance and Councelling***
- ***Testing and Assessing to Occupational Standarts***

The purpose of organizing IVETA CONFERENCE in Türkiye.

- ***To foster and promote porfessional linkages among international vocational educators and trainers***
- ***To serve as a forum for sharing vocational education and training problems and solutions worldwide***
- ***To assist in the further development of vocational education and training in Türkiye and world.***

PREFACE (2)

- ***To facilitate the worldwide dissemination of vocational education and training information***

Members of the IVETA 98 Conference Organizing and Advisory committees have given unstingly of their time and saved no trouble to ensure the participants a well organized and enjoyable conference.

We highly appreciate Dr.Rıza GÜRBÜZ and the members of organizing and advisory committee of conference.

We would like to thank the President of Ankara University Prof.Dr.Günal AKBAY for permitting us to use all the facilities of University during the organization of this conference .

We also thanks to managers and the members of Executive Boards of MONE (Ministry of National Education), YÖK (Higher Education Council)

Foundation of Education of MESS, British Council in Türkiye, ISOV (The Foundation of İstanbul Chamber of Industry), FESTO MATE and NEL companies which support us. The contribution of the IVETA Executive Board to the conference is highly appreciated. The members of the IVETA Executive Officers are:

President ,Jean Decker MATHEWS

Elected President, Johanna LASONEN

President Emeritus, Stuart NIVEN

General Secretary ,Jeanette R.DAINES

Executive Director ,Daniel DUNHAM

and Regional Vice Presidents of IVETA

The Organizing Committee of IVETA 98 Conference acknowledges the contribution of the speakers and authors altogether 77 speakers from 18 different countries, who made up the programme of the conference and the contents of the present publication. We also thank the audience for their participation.

AUGUST 1998
Prof. Dr. Sabahattin BALCI
CHAIR OF CONFERENCE

IVETA 98 KONFERANSI

31 AĞUSTOS - 2 EYLÜL 1998
ANKARA - TÜRKİYE

ÖNSÖZ

Uluslararası Mesleki Eğitim ve Öğretim Birliği (IVETA) her yıl iki konferans düzenlemektedir. bu konferanslardan birisi Aralık ayında Amerika Birleşik Devletlerinde, Amerikan Mesleki Eğitim Kurumu (American Vocational Association - AVA) tarafından düzenlenmekte, diğeri ise ABD dışında IVETA'ya üye ülkelerden birisinde yaz veya sonbahar başlangıcında gerçekleştirilmektedir.

Bu yıl IVETA konferansı 31 Ağustos - 2 Eylül 1998 tarihleri arasında Ankara Üniversitesi Çankırı Meslek Yüksekokulunun koordinesinde Ankara-Türkiye'de düzenlenmektedir.

IVETA 98 konferansında düzenleyici olarak görev alan kurum ve kuruluşlar :

- *Ankara Üniversitesi Çankırı Meslek Yüksekokulu*
- *MEB / Mesleki ve Teknik Eğitim Araştırma ve Geliştirme Merkezi Başkanlığı,*
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IVETA 98 Konferansının Türkiye'de Düzenlenmesinin Amacı :

Mesleki ve Teknik Eğitimde önemli birikimlere sahip, dünyanın çeşitli ülkelerinden üyeleri olan uluslararası birliğin katkıları ile önemli bir konuyu tartışmak ve ülkemiz adına bir sonuç çıkarmaktır. Bu tür konferansların en önemli faydalarından birisi de yeni dostluk ve arkadaşlıklara vesile olmasıdır.

IVETA 98 Konferansı Danışma ve Düzenleme Kurulu üyeleri konferansın en yararlı ve sorunsuz şekilde gerçekleştirilmesi için ellerinden geleni yaptılar. Konferans düzenleme ve danışma kurulu üyelerinin çalışmalarını takdir ediyorum.

Konferansın düzenlenmesinde Üniversitenin tüm imkanlarını kullanımımıza sunan ve bize önemli destek sağlayan Üniversitemiz Rektörü **Sayın Prof.Dr.Günal AKBAY**'a özel olarak teşekkür ediyorum.

Konferansın düzenlenmesinde düzenleme kurulunda yer alan

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değerli yöneticilerine ve konferansı maddi yönden destekleyen ÇANKIRI VALİLİĞİ'ne, ANKARA SANAYİ ODASI'na, FESTO, MATE ve NEL ELEKTRONİK firmalarının yöneticilerine teşekkür ediyorum.

Konferansa yurt dışı katkısı sağlayan IVETA Yönetim Kurulunun Başkanı **Jean Decker MATHEWS** ve özellikle IVETA eski başkanı **Stuart NIVEN**'a ve **IVETA Yönetim Kurulu üyelerine**, son olarak konferansın düzenlenmesinde katkısı olan **Yüksekokulumuz öğretim elemanlarına** konferans kitabının dizgisini yapan **A.Ü.Çankırı Meslek Yüksekokulu Masa Üstü Yayıncılık Birimi elemanlarına** ve **Ankara Üniversitesi Basımevinin yönetici ve çalışanlarına** katkılarından dolayı teşekkür ederim.

Ağustos 1998
Prof.Dr.Sabahattin BALCI
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QUALITY MATTERS IN INTERNATIONAL VOCATIONAL EDUCATION AND TRAINING

IVETA PRESIDENT=S OPENING ADDRESS

Jean Decker Mathews,
IVETA President

As IVETA President, I welcome you to this conference on behalf of the International Vocational Education and Training Association.

IVETA is delighted to be associated with the organizations which have made it possible for us to be here today for this important event. It is especially satisfying to be involved in a meeting which has the recognized support of National and International partners with a common purpose. That is, to draw attention to the importance of quality in all aspects of vocational education and training worldwide. We have before us a wonderful opportunity to get to know vocational educators and practitioners from different cultures and countries.

As we begin our meeting, I would like to share with you some history which will also demonstrate the close tie our Association has had with your country. IVETA emerged as the International section of the American Vocational Association (AVA) during its December 1984 convention. One of the participants involved in establishing our Association was Dr. A. Vural Turker, a Turkish citizen who served as our second President.

The annual AVA convention is held in different cities throughout the United States. Over 8,000 policy makers and teachers from universities, community colleges and technical schools attend this meeting. In view of the interest in learning about training projects financed by multilateral organizations such as the United Nations Development Program (UNDP), the World Bank and bilateral development assistance agencies, IVETA was established to organize conference programs which provided information on international projects as well as on new approaches developed to meet changing labor market needs at the country and regional levels.

In addition to holding an annual conference during the American Vocational Association=s convention, IVETA has had a second conference each year in countries which expressed interest in hosting one. In fact, this is IVETA=s second conference in Turkey. The first one was held in Istanbul in 1988 under the leadership of Dr. Turker. Since then, conferences have been held in Bali, Indonesia; Bangkok, Thailand; Helsinki, Finland; Sun City, South Africa; and Taipei, Taiwan.

IVETA=s conferences during the AVA convention and in countries such as yours contribute to the purposes of our Association. These objectives are:

- To foster and promote professional linkages among international vocational educators and trainers.
- To serve as a forum for sharing vocational education and training problems and solutions worldwide.
- To assist in the further development of vocational education and training as an international enterprise.
- To facilitate the worldwide dissemination of vocational education and training information.

Let us keep these purposes in mind as we participate in this meeting, learn from one another and make new friends. I am delighted to be here and look forward to having a good discussion on the issues important to all our countries.

ACHIEVING QUALITY THROUGH TRANSNATIONAL CO-OPERATION: A EUROPEAN PERSPECTIVE

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Introductory remarks

There is a tantalising ambiguity in the title of this year's IVETA conference, 'Quality matters in international education and training.' For those of us working in the field of international of education and training, quality really does matter. In almost all the texts that appear from the presses of Brussels in support of the education and training systems of EU Member States, the word quality will appear in one or other of its manifestations. Before the arrival of the Quality movement and its new applications beyond the factory gates, the word 'quality' was used in its traditional sense of 'high standards'. In the earlier EU texts, before even the word 'education' was used with any legal basis, 'quality' was very often used loosely as denoting the absence of something bad, such as "bad teaching", "low achievement" rather than something positive, existing in its own right and measurable. Differing views on the purpose of education make it an awkward candidate for the Quality movement. Training is a different matter. Preparing young people for work behind those same factory gates, or elsewhere in the world of work, seems to invite closer associations with the environment that spawned the Quality movement. Products, customers, competition and so forth.

This brief look at aspects of quality will take as its focus the way in which the construction of Europe has stimulated a quest for quality through international co-operation. This is not the product of academic research, more a series of comments from a practitioner.

Quality through co-operation: the role of the EU Commission

The ultimate aim behind the now famous article 126 of the Treaty of Maastricht, setting up the European Union (famous at least in educational circles), is to:

'contribute to the development of quality education by encouraging co-operation between Member states and, if necessary, by supporting and supplementing their action etc'

Although the context for achieving this quality is outlined in the text of the article, there is no attempt to define the term 'quality education'. Listed in the article are measures such as 'developing the European dimension in education', 'the mobility of students and teachers' and 'co-operation between educational establishments' . Although the word 'quality' is not used in the subsequent article 127, there is a clear conviction in both articles that there is real value to be added to the education and training processes deriving from doing things together. Put in other terms, the European Dimension is good for education and training and improves quality.

All of the Community programmes in support of education and training are based on this principle. Limited to transnational projects (and transnational in EU terms means that for each project there should normally be a minimum of three partners from three different Member states) the programmes offer support for joint activities at school, in higher education, in initial and continuing training and adult education. There is special support for areas such as language learning and the development of open and distance learning and the use of multimedia. The test of whether EU money, or funds from other sources, have been well spent is to be able to define whether real value has been added to the environment of the educational or training establishment through participation in a transnational project.

Various attempts have been made to define this added value. The insistence on it is justified by the argument that unless 'Europe' can be seen to add value there is no point in setting up what is now a considerable bureaucracy to disburse grants and vet applications. What is the advantage of doing it with others that doing it alone does not achieve? A question that many project organisers should ask themselves before embarking on the very onerous task of finding partners, submitting the bid and working at a distance with partners who may not even share the same specific objectives.

There are of course a number of easily defined values in international activities (or European, as we would call it in the EU). Learning a language is perhaps the easiest to justify. Broadening the horizons of the participants, both teacher/trainers and students/trainees alike. Introducing new methods to enrich the teaching of specific subjects or in the acquisition of certain skills. Stimulating confidence in mobility, particularly where the labour market is concerned. Teaching young people how to cope in a multilingual, multicultural society. All of these benefits can derive from the activities supported by these transnational projects, if they are successful.

The recent Commission publication, 'Towards a Europe of knowledge. What the programmes have achieved', listed achievements generally described as the European added value of these programmes. Among the achievements recognised were:

The perception of European citizenship; access for European citizens to education and training; eliminating inequality;improving language and cross-cultural skills; enhanced understanding of the need for lifelong learning; recognition of acquired knowledge and skills; promoting innovation; and paving the way for a virtual European area.

In measuring the value added of a programme such as PETRA which belonged to the first generation of EU programmes and which operated in the field of the initial training of young people, the following positive achievements were recognised:

Enhancing the attractiveness of initial vocational training; higher profile for foreign languages in initial vocational training; focus on transversal skills and the design of new types of vocational training qualifications.

Where does the individual fit in to all of this and the establishment where he or she is receiving an education or training course? For an answer one would need to investigate the final project reports and survey the establishments and individuals concerned. This is a mammoth task still far from completion. Some published material does exist, such as the various analyses of the benefits of participation in ERASMUS to higher education students or of participation in the PETRA programme to young trainees.

With restrictions to Community action in support of education and training removed to a large extent by the treaty of Maastricht and consolidated in the Treaty of Amsterdam, the Commission has wasted no time in creating a framework for a major debate on education and training. Their White Paper 'Teaching and learning. Towards the Learning Society', published in 1994, set the scene for a number of initiatives and resulted from the work of a study group made up of leading experts in the field from Member States. Guidelines for action are set out in the Paper 'in the pursuit of objectives to build up high-quality education and training'. One such guideline or general objective is that all Community citizens should have the opportunity to obtain proficiency in three Community languages. A European quality label is proposed in support of language learning.

This same study group has since produced a report entitled 'Accomplishing Europe through Education and Training', in which there is a clear commitment to quality as the 'watchword' for developments in this field. This time there is some definition of quality and recognition that the 'concept of quality may be readily evident for the world of business, but its translation into the world of education and training systems is less readily evident'.

The problem, as perceived by the Study group is 'how to get our systems to take greater account of business sector requirements and this offer learners the skills and qualifications companies need'. The Group summarises the challenge to education and training by listing three linked issues '(i) how to blend the development of the whole person, which is the prime aim of education, with the quest for quality of human resources in the business sector sense, (ii) methods of teaching/learning and the ways in which the acquisition of the cognitive and social skills can coincide, (iii) how to reduce labour market uncertainty or at least to be able to mange labour market risks.'

Quality through transnational co-operation: the contribution of NGOs

The contribution of what I like to call the third partner in the creation so called co-operation space or area for education and training are the many European associations which bring together practitioners from a wide number of sectors, usually on a voluntary basis, in a framework where ideas and experience can be exchanged and where the dissemination of good practice can enter the lifeblood of the system. Often neglected in the past, the EU Commission now recognises the role of these associations in helping to implement the development of quality education and training through ransnational co-operation.

The European Forum of Vocational and Technical Education and Training (EFVET) which I shall represent at the IVETA conference is just such an association, providing an essential vehicle for dialogue between practitioners from across Europe and beyond and between them and national governments and the EU Commission. Through its conferences and publications it facilitates the discussion of best practice and provides a forum for debate on quality issues.

As part of the debate on quality issues referred to above, EFVET has initiated a survey on current quality strategies adopted in Member States. Through contact with its members, information is now available from a number of Member States and it is clear that with the new relationship developing between the worlds of education and work, as well as the movement towards greater autonomy for education and training establishment, quality strategies are being adopted at every level. Quality assurance is linked to financial accountability and cost effectiveness and business principles are influencing and sometimes replacing traditional practices.

Decentralised systems, such as in the UK, tend to have travelled much farther along the quality route than more highly centralised systems, such as in France. In the former, for example, the country is awash with examples of quality strategies being adopted by schools, colleges, universities and training establishments. France, which in comparison remains highly centralised, continues to rely to a large extent on its traditional system of inspection. Nevertheless quality issues are the subject of a major national debate. The association QUALIFE (Qualité, Formation, Education) organises international conferences on quality issues. This is a grassroots initiative, bringing together, in fruitful co-operation, heads of schools (collèges and lycées techniques and professionnels) and university specialists.

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Quality debate in Initial Vocational Education. School based quality measures at intermediate level: a Danish and Dutch comparison.

IMPROVING THE QUALITY OF VOCATIONAL EDUCATION THROUGH INTERNATIONAL COLLABORATION AND COMPARISONS[1]

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Abstract

The purpose of this article is to present the results of the European Post-16 Strategies project. The project has compared upper secondary school reform strategies, that have promoted parity of esteem between vocational and general education, within and across eight European educational systems. The partnership represented a broad range of expertise: the researchers, school administrators and teacher educators. The project identified four strategies for promoting parity of esteem: (1) vocational enhancement, (2) mutual enrichment, (3) linkages, and (4) unification. The Post-16 Strategies project also drew on the conceptual frameworks, generated materials for working out implications for the development of educational policies and created collaborative linkages between European pilot schools. The experiences, process and findings of the Post-16 Strategies project have had a transfer value for the development of eight nations' secondary school systems.

Purpose

The Leonardo da Vinci project Post-16 Strategies was a partnership of eleven institutes operating in eight European countries. It aimed to survey and analyse recent or forthcoming post-16 education reforms within eight European upper-secondary education systems so as to capture those key topics, phenomena and issues that may be considered to have the potential to turn educational trends into directions leading towards parity of esteem. This paper discusses the project and its results and identifies its shared lessons.

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[1] This two-year (December 1995 - November 1997) project was carried out with the financial support of the Commission of the European Communities under the LEONARDO da VINCI Programme.

Procedures

The Post-16 Strategies project examined and compared the educational strategies applied, with a view to improving the attractiveness of vocational education and promoting parity of esteem, in the upper secondary education systems of six EU member states and Norway (Lasonen, 1996). In four countries (Finland, Germany, Norway and Sweden), cooperation with pilot schools were among the means adopted to promote reform. Study visits to (pilot) schools were used in the project to promote collaboration between research institutes, educational agencies and schools. Thus the project has reinforced existing networks between teachers, administrators and researchers, and given an impetus to the creation of new ones.

To ensure that a multicultural research team achieves efficient and productive collaboration it is sensible to establish working methods that enable all parties to make an equal and reciprocal attempt to understand each others' education systems. The multicultural nature of the partner team involves on the one hand the representation of different nations on it and on the other hand cooperation between producers and consumers of knowledge.

The principal method chosen to carry out the project was that of *a structured collaborative writing process* where an interdisciplinary and international team of experts works out the results of its analysis in and through writing. This process advanced in stages according to collectively agreed tasks. Collaborative writing is based on the assumption that knowledge of European educational phenomena emerges in social interaction. Mutual learning through collaborative writing is a social endeavour.

Reflecting the strong social dimension of its approach to its subject, the project was organised around *joint workshops* where the European partners presented papers and engaged in round-table discussions and brainstorming sessions. Each marked the culmination of one stage of the project and defined the tasks for the next stage. Round-table discussions during the workshops have helped the collaborators to make comparisons and draw conclusions. The meetings of such a multidimensional team have been intense. Their organization is based on tasks defined in each working seminar for the period following it. Each meeting of the partners has opened a new phase in the ongoing implementation of the project.

The reforms that were analysed differed in their scope and extent. The Austrian, English, French, Norwegian, Scottish and Swedish reforms are nationwide. Unlike the other, ongoing reforms, the Scottish Higher Still is yet to be implemented. The German research is based on a single pilot site while in Finland the reforms are being run in 16 localities.

The focus of the Austrian reforms is the introduction of Professional Highers (*Berufsmatura/Fachmatura*) and on establishing a system of polytechnics (*Fachhochschulen*). Those completing apprenticeship training will also be able to gain university entrance qualifications.

The English and Welsh reforms centre on the National Qualifications Framework defined in the Dearing Review as comprising school-based and work-based routes (A levels, GNVQs and NVQs). Since 1991, academic and vocational qualifications have been officially described as "separate and equally valued". In this context the concept of parity of esteem refers to formal equivalence.

The programme of the French *Baccalaureat professionnel*, created in 1985, is not equivalent to the traditional academic programmes but is designed to be more attractive to students than the other vocational programmes. Furthermore, the *Baccalaureat professionnel* has common features with the Technological and General Baccalaureates.

The Norwegian and Swedish reforms that established comprehensive upper secondary schools were introduced in 1994. Academic competencies were extended to vocational students by incorporating more general subjects into vocational programmes. Cooperation with working life has been improved and vocational students have been given more hands-on experience. The Norwegian reform affects both educational structures and curricula, while the Swedish reform is mainly structural in emphasizing unification. During their three-year training Norwegian vocational students are able to alternate between school-based and on-the-job training (the 2+ model). Norway has also started training vocational and general upper secondary school teachers in common teacher education programmes. The Swedish reform emphasises uniformity of treatment and common outcomes for all students. Scotland's forthcoming (to be launched in 1999) Higher Still is a nationwide and systemic reform.

The Finnish "youth education reform", begun as an experiment in 1992, has broadened the range of qualifications available, especially to vocational students. Students' freedom of choice has been increased by developing collaboration between local groups of vocational and general upper secondary schools. The reform is being piloted in 16 localities, comprising about 20 per cent of the starting places offered in vocational upper secondary schools and about 12 per cent of those available in general upper secondary schools yearly.

The *Schwarze Pumpe* project in Brandenburg involves about a hundred students. It focuses on bottom-up, process-oriented reforms within the dual system and aims to modernise the vocational education curriculum and pedagogy to take account of changes in society and on the workplace. The project seeks to qualify young people for higher education as well as for employment by exploiting the potential of modern vocational training to develop, in students, the capacity to study. Another aim is a level of education equivalent, in some respects even superior, to that delivered on the academic/general track of German upper secondary education.

The Results of the Post-16 Strategies Project

Mapping the dimensions of these reforms undertaken in eight upper secondary education systems and comparing them yielded four alternative strategies for promoting parity of esteem: vocational enhancement, mutual enrichment, linkages and unification. *Vocational enhancement* emphasizes the distinctive nature of vocational education on the basis of its characteristic content. Esteem for vocational education is linked with the standard of the content and pedagogy offered in vocational education and training (Heidegger, 1997). The German and Austrian reforms are based on the assumption that vocational training can also open students a path to higher education qualifications. Under the strategy of *mutual enrichment* represented by the Norwegian and Finnish reforms, vocational education institutions, enterprises and general secondary schools cooperate with the aim of giving students more choices and more stimulating learning environments. The strategy brings together different types of schools on one hand and school and work on the other while still preserving their distinctive character. The *linkages* strategy, adopted in England and France, involves making vocational and general education formally equal by linking both to a common qualification structure.

These three strategies aim to maintain a separate identity for vocational and general education. Under the *unification* strategy, by contrast, vocational and general education are merged into one another until they make up a unified post-16 education system. Sweden and Scotland represent such unified systems where the goal is to abolish the distinction between vocational and general learning as such.

Although the four strategies are not pure types and although developments in most countries include examples of more than one strategy, they have served as an useful analytic tool for studying current reform measures. The project's focus on individual strategies and two-country comparisons has brought out the importance of the different forms that each strategy can take in different countries. This reflects the different reform priorities and different strategic perspectives arising in work-based and school-based vocational education systems. Further, even in a country where a particular strategy is dominant, it is the strategic mix involved in any national reform that is crucial. Moreover, strategies and emphases may differ on different levels; reforms may, for example, be unifying on one level but have features of mutual enrichment on another.

Effectiveness of the Strategies

Finally, what more general conclusions can we draw about the effectiveness of the different strategies or about the practical lessons which countries may learn from each other? Because there is as yet insufficient evidence with which to judge most of the reforms covered by this study, the conclusions are indicative.

- No one strategy is superior or more effective than the others in an absolute sense; the effects of each strategy must be judged in relation to the educational system and the context in which it was introduced.

- The project has identified many practical lessons which countries can learn from experience elsewhere, but these tend to be specific to the country which is learning the lesson. This means that the project's findings need to be communicated to (and tailored for) policy and practitioner audiences on the country level, as well as on the EU level.

- A country may learn most from countries pursuing the same strategy, but it may also learn from other countries. For example, Scotland can learn the most direct lessons from Norway and Sweden, which are also introducing unified systems; but it can also learn from other countries, such as Germany which, despite its track-based strategy, may have the most radical approach to the integration of general and vocational curricula and pedagogy within the vocational track.

- As is usually the case with comparative research, one of the most important practical lessons from the comparison is a better understanding of one=s own country, and of the strategy it is pursuing.

- Finally, parity of esteem in the strict sense is an unrealistic and unobtainable goal. For as long as vocational programmes in upper-secondary education lead to lower-paid and lower-status occupations than general education, we cannot expect them to enjoy parity of esteem. The most immediate objective of many of the reforms is to halt the trend for participation in general and high-status routes to increase at the expense of the vocational and lower-status ones. Reducing such academic drift is also a difficult goal, but it is at least an achievable one. If future policies were framed with objectives that were achievable, there would be less frustration at the failure of policy, and the task of policy analysis would acquire greater clarity (Lasonen & Young, 1998).

Shared Learning

For the final report each national team undertook to prepare a Lessons section consisting of two parts: comments on the other partners' three strategies (policy aspects), and six lessons and questions arising from the other teams' experiences (practical aspects). The focus was on *the lessons and questions received from the other partners*. In their comments on the distinctive and noteworthy features of the strategy assigned to them for analysis the partners were asked to assume the role of an observer and pinpoint its critical features and problems. This section concentrated on the outcomes of the shared learning process and on reviewing what could possibly be borrowed from the other partners' experiences.

In general, most areas where the parties felt that they had lessons to learn from the others involved flaws in their own reform, strategy or educational system. Most sources of lessons, apart from the forthcoming Scottish reform, are tried good practices. The strengths of the enhancement strategy were found to lie in higher-level vocational programmes, vocational key qualifications, a philosophy of learning and working assignments and shaping skills, and cooperation between school-based education and workplace training, those of the strategy of enrichment in local- and school-level decision-making in matters involving student choice across and within vocational and general upper secondary schools, the inclusion of apprenticeship in school-based education (the 2+ model), combined teacher training and a core curriculum for guaranteeing lifelong learning skills. The features of the linkages strategy considered worth learning from were its voluntarist approach to key skills and the Vocational Baccalaureate degree as a pathway to employment. In the case of unification, team members found matter for thought in its weak and unvalued vocational track and its unified curriculum and an assessment system with no fixed end point and with a common school for all.

From the national mappings nine reform trends can be identified which are found to varying degrees in each country. They can be grouped as sub-dimensions of the four dimensions of connectivity already referred to as follows (Young & Volanen, 1998):

Context

- new relationships between educational providers and enterprises
- institutional de-specialisation in relation to learning

Content

- new approaches to teaching, learning and content
- re-professionalising teachers

Structure

- making the system more inclusive of all learners and potential learners
- increasing flexibility and student choice

- improving educational and occupational progression

Process

- bottom-up reforms which have strong local and practitioner support
- local networking between schools and colleges and between educational establishments and enterprises.

Together these trends represent an overall strategy of creating a more *connective systems* of upper secondary education which is more intelligent to relate to its environment and is able to act on it rather than just adapt to it.

Partnership

A - Institute for Industrial Sciences (IWI) and Institute for Vocational and Adult Education Research (IBE); D -Institute for Technology and Education (ITB); F - International Centre of Pedagogical Studies (CIEP) and National Institute for Pedagogical Research (INRP); FIN - Institute for Educational Research (IER); N - Agder College; S - National Agency for Education; England and Scotland, UK - Post-16 Education Centre, Centre for Educational Sociology (CES) and Scottish Qualification Authority (SQA)

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IN PURSUIT OF QUALITY VOCATIONAL EDUCATION AND TRAINING
SOME INTERNATIONAL PERSPECTIVES

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1 Abstract

The call for papers for the 1996 Taipei International Conference on Employment Security asserted as a truism that the development of a country is based on the growth of the economy and the growth of an economy depends on a high talent workforce. Countries differ however in their approaches to creating and sustaining such a workforce.

An emerging global economy has already become a driver for change which affects all of us and it will surely impact on technical vocational education and training. This has been a major issue in recent years at international events, notably at IVETA conventions in 1995 in the USA and South Africa, in 1996 in Taiwan and again in the USA and in Finland in 1997. It has also been a concern of the European Forum for Vocational Education and Training at its conferences in 1996 in Portugal and in 1997 in Finland. Earlier the Senior Administrators Conference of the Colombo Plan Staff College in the Philippines addressed the globalisation issue and concluded, "The trend towards a global village with a single economy will put pressures on all countries to redesign their education and training systems in order to produce a world class adaptive workforce."

What then will characterise a quality technical and vocational education curriculum likely to achieve these ends? According to Arvil Van Adams, Human Resource Adviser to the World Bank, emphasis should be laid on establishing a foundation of basic skills of numeracy, literacy, communication and problem solving together with some basic ideas of science and technology. But there are other issues to be addressed within a curriculum for a global workforce e.g.

1. A capacity for working with others
2. Cultural implications of changes arising from advances in science and technology
3. How quality of life may be enhanced through sport and recreation and by exposure to the arts
4. Understanding and empathising with people especially across different cultures.

In addition to these general factors however there is, of paramount importance, a requirement for specialised provision which relates to specific occupations.

As well as endorsing the features of the TVET curriculum described earlier, Petrov, in giving an ILO perspective on the development of curricula, has stressed the need for flexibility in structure and modes of delivery of TVET programmes. He singled out for special mention the Scottish modular curriculum.

Scotland's technical and business education courses, which through the 1970's and early 1980's had been focussed upon the attainment of objectives, were jettisoned in 1983 in favour of a modular curriculum that was outcomes based. A module in this curriculum equates with forty hours of study and there are examples also of "double modules" and "half modules". A full-time student undertakes between 22 and 26 modules in one year whereas part-time students can proceed to accumulate module credits at a pace best suited to their capabilities. Credits accumulated for successful completion of modules are recorded on a Scottish National Certificate. Educational reforms currently underway in Scotland will see the modularization of the entire curriculum for upper secondary education and for non-advanced further education.

In addition to the non-advanced curriculum just described the further education colleges in Scotland provide higher education courses, again unitised (modular), which lead to the award of Higher National Certificates and Diplomas. Normally 12 unit credits are required for the award of a Higher National Certificate and 30 for a Higher National Diploma. Higher National Units, i.e. the building blocks of the Higher National Certificate/Diploma curriculum, have the same characteristics as the National Certificate modules; i.e. they are outcomes based and the assessment is criterion referenced. Articulation among courses is such that it is possible to proceed from a National Certificate to a Higher National Certificate or Diploma and then to a degree programme.

Outcomes together with the associated criteria for assessment have come to constitute "National Standards of Competence " and it is these standards which are the foundation upon which Scottish Vocational Qualifications (SVQs) and National Vocational Qualifications (NVQs) are erected. In this regard outcomes are referred to as " Elements of Competence". In the UK industry lead bodies set these standards but this function is being taken over by national training organisations. Membership of the standard setting bodies is broadly representative of industry, both private and public, and, where appropriate, of the professions. It is essential for all programmes leading to the award of VQs to include basic skills i.e. numeracy, communication, personal and social development, information technology and problem solving in addition to technical/vocational content apposite to specific occupations.

In exactly the same time frame technical/vocational education in the USA has seen the introduction and almost exponential growth of "Technical Preparation" programmes. This new "applied academics" curriculum is aimed at the two mid-quartiles of the upper secondary school population. Leaders in the Tech.Prep movement Dan Hull, Leno Pedrotti, Dale Parnell et al shared a concern that that the traditional American upper school curriculum had an over academic focus and was aimed mainly at preparing pupils for university entrance tests. Not enough was being done to provide an appropriate curriculum for the majority who would not aspire to go to university. They believed a curriculum was required which would not only provide a rounded education through English, social subjects, arts and humanities but, by giving prominence to applied mathematics, applied technology and applied science, would provide a basic grounding which would be welcomed as more relevant than pure academic studies by many employers. The Tech Prep curriculum does exactly this and in addition provides preparation for particular career paths. In many instances employers, e.g. Boeing, have played a major part in stimulating the introduction of Tech Prep programmes.

Successful completion of a Tech Prep programme results in the award of a High School Diploma. Diploma Graduates may either enter work, go on to a community college to undertake a two year period of study for an Associate Degree in subjects such as Computing, Telecommunications, Robotics and Automated Manufacturing, Nursing, Information Management, Business and Marketing, or go to university.

Worthy of note is how closely the Tech Prep/ Associate Degree provision parallels the Scottish National Certificate/Higher National System. The main difference to date has been the importance of a nationally set curriculum in the Scottish model compared with the freedom of operation to design particular curricula to accommodate local needs offered in the American model.

Other countries have been no less assiduous in the measures they have taken in searching for quality and looking to the future as research by Niven and Finlay shows. Their study of vocational education and training in Germany, Japan, Singapore, USA, France, Ireland, Australia and Finland concludes that some countries are proactive in their approach to economic development and to the role of TVET in supporting that development while others are reactive. The proactive group which comprised Germany, Japan, Singapore, Ireland and Finland did not set short term targets but showed a preference for a long term strategic approach. This group also showed concern for consensus and harmony among the various stakeholders, the community, government and industry although achieved in different ways in each country. A second group comprising the USA, Australia and France, (and to which could be added the countries making up the UK) were much more inclined to react, sometimes precipitately, to aberrations in their economies. They were also more prone to target setting none more so than the UK and France.

Target setting began early in France where in 1984 five specific targets were put in place. These five separate targets have now however been replaced by a single goal for 2000 of inducing 80% of the relevant age group to achieve the baccalaureate (the secondary school credential required for university entrance). The baccalaureate may be achieved in academic, technical or vocational subjects.

Dissatisfaction with the level of commitment to lifelong learning and with the numbers achieving vocational qualifications prompted the government in the UK in 1993 to establish two bodies to set and monitor targets, the National Advisory Council for Education and Training Targets and, for Scotland, the Advisory Scottish Council for Education and Training Targets. Each Council, with the approval of government, has set a range of targets that challenge employers, employees and potential employees.

Looser targets less susceptible to continuous monitoring have been set in the USA viz.

1. "By the year 2000, students in the United States will be first in the world in science and mathematics achievement"

2. "By the year 2000, every adult in the United States will be literate and will possess the knowledge and skills necessary to compete in the world economy"

Setting targets is all very well but to reach consensus about them and willing the means by which they can be attained are different matters. These issues were subject to further research by Niven and Finlay. The research which was funded by ASCETT focussed on two key questions.

1. How, in successful economies do those concerned with policy generation and implementation ensure a good fit between economic, industrial, education and training policies? and

2. When changes in the vocational education and training systems are being undertaken, what, if any, practical steps are taken to generate consensus among the main stakeholders in the system?

The countries chosen for this comparative study were Finland, Germany, Ireland and Singapore identified in the earlier study as proactive economies together with the USA from the reactive group, chosen because of the diversity of arrangements across the fifty States. To these five were added South Africa because of its transition to universal suffrage and Taiwan because of its outstanding economic and educational achievements in particularly difficult circumstances. The research followed Delphic methods and was grounded in a seminar held in Glasgow to which an expert from each country was invited.

Evidence from the experts suggested that there was no single answer to the research questions and they came to the conclusion that each country must endeavour as best it can to put in place arrangements best suited to its needs and its culture. A number of principles of good practice were identified from which we can learn and which could be helpful as we seek to promote successful futures for our TVET systems.

Firstly there is the recognition of the need for change but in this we might well bear in mind the quite profound remark of Bert Lance, American banker and politician, in " Nations Business" May1977, "If it ain't broke don't fix it". Evolution not revolution is the way in Finland where a process of change is part of the education and training system. Often however traumatic events precipitate change. This has been so in the USA, France and the UK for example where unfavourable comparisons of the growth of economies with major trading competitors has stimulated changes.

Secondly is the recognition of the importance of compromise. No one can win all the time and the best that might sometimes be achieved is to reach a position of acceptance. " I can live with that is the American way".

Thirdly the experts agreed that consensus was not to be arrived at overnight: reaching consensus is a long-term iterative process in which all stakeholders have say. Participation in the process secures commitment and promotes a sense of ownership.

Fourthly stakeholders, actors, role-players, social partners, or whatever collective descriptor best suits a particular culture, need to be identified in relation to individual countries and those identified will vary from country to country. Every category of stakeholder has a different set of concerns and each has a different sphere of influence.

Fifthly there are important leadership functions. There is a need for visionaries i.e. people who can picture an outcome and share it with others. There is a need for facilitators who can help to find a way through a profusion of different perspectives. There is a need for "window people" to present these perspectives and a need for "door people" who can provide access to resources.

Sixthly the experts recognised the importance of communication including not only dissemination of ideas but also feedback about these ideas.

Seventhly openness with the public was thought important, as was a willingness to identify and tackle differences overtly.

On a more practical level national conventions such as those held in Turkey and Ireland in recent years at which there was the widest possible representation seemed to offer an excellent approach for reaching consensus. Similarly public hearings on key issues as practised in the USA seem to offer a good way of "reaching the people". In the UK merging government departments of education with industry and employment may hold a key to harmony where before there was disharmony. A bigger step could be to introduce role-rotation of government departments as practised in Singapore. The practice in Finland of introducing change incrementally and of piloting and evaluating the change increments could be widely applied. In the same vein is the impetus given to the Tech Prep initiative in the USA by the penetration of specially commissioned curriculum support materials. Other countries might consider following this example; indeed some have already done so. In Turkey for example major projects for upgrading industrial schools and for enhancing non-formal education, funded with World Bank support, have resulted in new equipment for laboratories and workshops but perhaps more important has been the translation of high quality curriculum support material into the Turkish language.

Above all the Glasgow Oracle concluded that all our futures were inter-linked and the better we understand each other the better will be our prospects for the future.

INDUSTRY-EDUCATION CO-OPERATION FOR RELEVANCE AND QUALITY ASSURANCE IN TECHNICAL-VOCATIONAL EDUCATION AND TRAINING IN ASIA

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1. INTRODUCTION

1.1. It is, indeed, my great pleasure to deliver this paper in this IVETA international conference for 1998 held in this historic city of Ankara. As the IVETA Vice-president for Asia, I have the honour to bring greetings of all IVETA members from Asia and congratulate the organizers of this conference for bringing a global vision for improving the quality and relevance of technical and vocational education and training (TVET). Asia is in the middle of an economic crisis. The crisis has underscored the critical importance of developing human resources to meet the challenges of 21st Century. In the globalized world of the next millennium TVET will pay a critical role. However, to play that role effectively the relevance and quality assurance of TVET is of utmost importance.

1.2. The involvement of industry in the process of TVET is particularly important to enhance its relevance and quality assurance. The reform agenda for TVET, particularly for the developing countries in Asia should include significant emphasis in increasing industry participation in all aspects of planning, implementation and management of TVET. The purpose of this paper is to present the rationale of industry-education cooperation and present a few notable examples from the member countries of the Colombo Plan Staff College for Technician Education, Manila. This, I hope, will facilitate forming a coherent strategy for effective industry-education partnership in developing countries for improving the quality and relevance of TVET.

2. RATIONALE FOR INDUSTRY-EDUCATION COOPERATION

2.1 Formal and non-formal TVET is the key to improving the productivity of the middle-level manpower. However, in most of the Asian countries one of the major issue of the current state of TVET is its lack of relevance to industrial needs and its unsuitable quality. International trade and investment have expanded rapidly in Asian countries. Populous countries like India and China are moving fast towards an effective market economy. Other countries in this region have also opened their doors to accelerate the process of globalization. New and sophisticated technology are being introduced in most industries in this region. To remain employable and competitive in such a market-driven work place and to have the necessary skills, attitude and competencies to work on new and emerging technologies, the technician in the new millennium would need to inculcate in `industrial culture' and develop appropriate skills and competencies to work on sophisticated equipment and machineries. Quantitative expansion of TVET in most of the countries in the region and their financial constraints and the current crisis are added problems which could only be addressed if the industries are made partners with the TVET systems in the countries concerned.

2.2 To succeed in a highly competitive global market place, industry, particularly in the developing countries in Asia, need to keep pace with latest advances in technology, equipment and machineries. Most of the TVET institutions in the developing countries in Asia find it extremely difficult to keep pace with technological advances in the Industries. There is a growing gap between the contents of training in TVET institutions and requirements of industries. There is a growing recognition now that establishing effective partnership between industries and TVET will be mutually beneficial for quality and relevance. This will also be most cost-effective method of delivering the TVET.

2.3 Successful case studies from India, Philippines and sone of the other developing countries in Asia show how such cooperation is meeting the needs of both the industries and the institutions. UNESCO, Colombo

Plan Staff College (CPSC) and other organizations have advocated policy of effective collaboration between industry and education for quality assurance of TVET. However, most of the institutions in these countries still remain away from the industries. Many countries do not have appropriate policy or legislation to establish such cooperation at institutional level.

3. CASE STUDIES OF INDUSTRY-EDUCATION COOPERATION

3.1 CPSC tried to compile notable examples of effective partnership between industry and TVET institutions in Asia in 80s. In the 90s the Director and the Faculty members of CPSC came upon with a number of other successful examples of effective cooperation between industry and education which could be analysed to develop useful models for proposing a strategy or such partnership.

3.2 CRISP from Bhopal, India

The first case study comes from Bhopal, the Capital city of the Madhya Preadesh State in India. The name is well known to some of you because of the gas disaster there a few years ago. It has a fair number of large and medium sized industries in and around the city.

Centre for Research and Industrial Staff Performance (CRISP) is located in the S.V. Government Polytechnics in the heart of Bhopal. CRISP was set up in 1997, as an autonomous registered society with assistance received from the German Government and the Government of Madhya Pradesh. The Centre is expected to become financially self-sufficient within a period of next four to five years.

In close cooperation with local industries, CRISP aims to provide :

- High quality training, particularly in emerging technology areas.
- Facilities for production-cum-training
- Consultancy services to industries
- Tailor-made Development of training materials and modules

CRISP programs are market-based, market driven and income generating.

The target groups for training are :

- Teachers and technicians from TVET institutions
- Technicians from industries, and
- Vocationally trained job-seekers

Typical short-term training programs are offered in the areas of : CNC Machining; CAD/CAm; Robotics; Mechanical/Maintenance; Information Technology, diagnosis and repair work.

CRISP maintains close links with industries and the local polytechnics to draw its training resources and also to get trainees for its programs. Client focus, market orientation, in-plant training and cost-effective program are some of the attractive characteristics of the CRISP. Initial experience have proved to be very successful in achieving its objectives. Next few years can prove its financial self-sufficiency.

3.3. The second case study comes from the Philippines. The Philippines Republic Act No. 7686, promulgated in 1994, introduced the Dual Training System (DTS) in the country for promotion and implementation of the adapted version of the German Dual Training System. Essence of the DTS is that the school and the workplace share the responsibility of providing trainees with coordinated learning experiences and opportunities. Theoretical and laboratory components of instruction are given in the TVET schools whereas the practical and in-plant training is offered in the workplace. The trainees of the DTS are regular workers who are sponsored by their employers for attending the school according to a specific schedule. DTS brings in industrial experience and relevance to training programs. Equipment, space and resource persons provided by the work place leads to cost saving and cost efficiency. Delivery of the training programs both in school and at the workplace guarantee relevance and suitable quality necessary for improving work performance. The Republic Act of 1994 has provided the incentive and legal backing to introduce the DTS in many of the technical and vocational schools in the Philippines.

3.4. Industrial Apprenticeship System is used for providing trained manpower to the industry in a number of countries in Asia-Pacific, including Australia, India and Pakistan. Often the Apprenticeship System is regulated by an Act of Parliament of the country concerned.

Under the Apprenticeship System the employers undertake to train young persons on-the-job in a particular skilled area and also release the apprentice for one or two days a week to attend technical institutions. The collaboration of industry and institution in an apprenticeship program is sustained by the intervention of a third party, usually a government department responsible for administration of apprenticeship programs. Industries often find the apprentices more useful for specific industrial jobs than the graduates from TVET institutions.

4. CONCLUSION

In many developing countries in Asia and the Pacific region TVET is suffering from problems of image, relevance and quality. In the context of free-market economy liberalization of trade and commerce and opportunity for greater worker mobility have enhanced the need for improving relevance and quality of TVET to make the workforce globally competitive.

Successful case-studies of effective industry-institution interaction indicate the possible ways to enhance such cooperation at the notional level and the view of policy changes and regulatory framework needed for creating an environments in which industries will be motivated to participate in such interaction.

There is ample evidence to show that appropriate linkages between industry and institution with intervention of the government will lead to optimum utilization of resources, promote transfer of technology to the TVET institutions, make the middle level workers more productive, develop cooperative R and D programs, and build up positive image of TVET institutions in the eyes of industrial CEOs and employers.

A CRITICAL ANALYSIS OF THE RESTRUCTURING OF THE FURTHER EDUCATION AND TRAINING SECTOR IN SOUTH AFRICA

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1. PREAMBLE

In 1994 President Mandela's new government inherited not only a country divided by racial lines but also an educational system fragmented by the racial policy of the previous government. The transformation of the educational system therefore had to form part of the broader process of South Africa's political, social and economic transformation.

2. THE NEGATIVE IMPACT OF THE APARTHEID SYSTEM ON EDUCATION IN SOUTH AFRICA

Despite acknowledged achievements and strengths, the educational system was generally characterised by numerous inefficiencies which, amongst others, included:

- Gross discrepancies in the participation rates of students from different population groups, imbalances in the ratios of balck and female staff compared to whites and males, and equally untenablel disparities between historically black and historically white institutions in terms of facilities and capacities. Research conducted for the Green Paper on Further Education and Training (GPFET) presents the following educational statistics reflecting the negative effect on particularly the traditional black schools:
  - Σ About 500 000 learners wrote standard ten in 1997
  - Σ Of these, 50% failed
  - Σ Of these, only 70 000 (14%) received matriculation examption

Σ Of these, only 20 000 (4%) were accepted into universities and technikons

Presently, matriculation repeats are costing the country over R2 billion Per year.

❖ Lack of funding coherence with a different funding formulae applied for the different population groups;

❖ The provision of FET reflected a rigid and outmoded distinction between 'academic' education and 'cocational' education and training. Consequently, technical and vocational education lacks parity with traditional schooling;

❖ Weak linkages with industry-employers complain that the new entrants into the labour market generally lack appropriate knowledge and skills to be effective in the workplace. The training is generally irrelevant and outdated, equipment antiquated and tuition is generally of poor quality.

If cognisance is taken of the above-mentioned disparities, the new educational and training system in South Africa has to be different to that of other countries in certain specific areas since we have to address the very grave problem of a majority of disadvantaged learners from the previous discriminatory system, address the high illiteracy and semi-literacy levels, the low skills levels and the high level of unemployment.

I will now focus particularly on the transformation/restructuring of the Further Education and Training (FET) sector in South Africa.

3. NATIONAL POLICY DOCUMENTS AND ACTS INTRODUCED TO TRANSFORM THE EDUCATIONAL SYSTEM

The national minister of education formulates educational policy for the entire country. He determines norms and standards, including funding norms, curriculum requirements, quality assurance mechanisms and he will also determine the broad goals and objectives for transforming the educational system.

Numerous policy documents and acts have been introduced since 1994. For the FET sector a National FET Act will be introduced[1] and it will have to be read in conjunction with the other policy documents affecting the FET sector, for example, the Schools Act, the National Education Policy Act, the White Paper on Higher Education and the Skills Development Bill.

A very important development was the establishment of the South African Qualifications Authority (SAQA) to focus all institutional types and provision on the National Qualifications Frameworks (NQF), which makes provision for qualifications from level 1 to 8.

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[1] The Draft Bill on Further Education and Training was released in May 1998.

General Education (level 1) which is compulsory extends to Grade 9 and is "paralleled" by ABET levels 1 to 4. Both ABET and General Education end with National Education Certificates (GEC) at level 1 of the NQF. FET qualifications fall between levels 2 to 4 on the NQF and they are awarded Further Education and Training Certificates (FETC). Higher Education starts at level 5 and extends to level 8 on the NQF.

The NQF facilitates, amongst others:

- Σ Horizontal and veritcal mobility for learners
- Σ Portability of qualifications or credits achieved towards a qualification;
- Σ Recognition of Prior Learning (RPL);
- Σ A system of assessment which is not examinations driven but includes summative and formative and continuous assessment, and is a learner-focused system rather than teacher-centred.

CRITICAL ISSUES THAT STILL NEED TO BE ADDRESSED

There are a number of critical issues in the FET sector which the government has attempted to address through the policy documents, the Green Paper on Further Education and Training (GPFET) and the Draft Bill on FET, but these are still unresolved. Therefore these proposals still need to be debated more thoroughly to ensure an equitable, unified FET system.

These issues include, inter alia:

- **The need to balance the demand-and-supply-side of training**

The Green Paper stressed the need to balance the demand-side (responsiveness to the market in the provision of programmes in FET) with the supply-side. This approach has full political approval and is further underscored in the Skills Development Bill, where its 1% levy on the payroll will be spent to support demand-led provision.

However, a large number of trainees seek enrolment at technical colleges rather than being unemployed. A more detailed elaboration of strategies is required to counter this problem, which may include prescibing a social responsibility function for all FET colleges in order to place them at the forefront of efforts to develop self-employment, small business, entrepreneurship, local initiative, community development and self improvement.

- **Management Information System (MIS)**

A key recommendation which the GPFET shares with the Skills Development Bill is the emphasis on building a MIS system, particularly with regard to labour market signals and trends. Planning of the new FET system will be highly dependent on information about the number of trainees and trainees Per specific fields of study, which would then be matched against the number of declining jobs, new jobs, and new employment prospects. This needs to be done expediently because the new data may influence the restructuring substantially.

- **Cross-Cutting FET Legislation**

The Government has passed a number of Parliamentary Acts which impact on both education and training. These cross-cutting pieces of legislation necessitate the Department of Education to ensure that, when writing legislation for the FET sector, the systems will be speaking to each other, and will ensure an overall unified system of GE, FET and HE. FET is a relatively new concept in SA. It overlaps with HE and it now also incorporates the three final years of schooling-years which were traditionally managed by GE.

- **Integrating the efforts of the Departments of Education and of Labour**

A related concern is the structural question of how the two Departments of Education and of Labour will relate to each other in the joint responsibility of regulating the 'training' and 'learnership' components of the FET sector. The government has appointed an inter-departmental committee to investigate the matter and come up with a solution.

- **Correcting the dysfunctional 'Drift' of FET into the HE band**

There has been significant growth in HE enrolments at technical colleges in the FET sector. In a number of institutions more than 70% of the students are enrolled for HE programmes.

This provision of HE programmes by technical colleges occurs simultaneously with the trend away from the 'hard' FET engineering subjects toward the 'softer' commercial and management courses offered at both FET and HE levels, although prensently over 40% of porvision in technical colleges nationally still occurs in the engineering field of studies. The remainder of the enrolments is divided among the other five fields. It is the engineering skills that will be needed from the FET sector once South Africa enters a new growth and development cycle.

A number of proposals have been made in the GPFET consultations to resolve some of these difficulties. One is that 'subtle' forms of control be developed to regulate this academic drift, for example, by:

Σ Permitting course offerings up to NQF level 5 in FET for a transitional period of 5 years, during which time an extension to higher levels could be more throughly investigated; or

Σ Prescribing that courses at NQF levels 5 and 6 can only be offered in FET institutions through partnerships with neighbouring HE institutions, which would ensure parity of esteem and quality control.

In addition, the White Paper on HE argues that all HE courses should be funded through a HE funding mechanism, including courses offered by FET institutions. The GPFET adopts the same position. The Devartment must decide on accepting this principle-in which case, technical colleges will not receive HE funding for their tertiary courses unless the Committee for Higher Education (CHE) believes that they are worth funding. This alone should cut back on unlimited expansion into HE by FET colleges.

- **Learnerships and links with the Skills Development Bill**

The point regarding learnerships has already been made above. However, the idea of 'learnerships' occupies a central place in the Skills Development Bill. Similarly, the task of modernising the theoretical part of apprenticeship training and creating a greater range of career options within the learnership concept should be regarded as a major priority.

- **Concurrent Powers**

The debate regarding concurrent and overlapping (national and provinicial) powers has received much attention since the promulgation of the Interim Constitution in 1994 and the final Constitution in 1996.

A single co-ordinated system of FET is based-as is the case for the new model of HE-on a single set of regulatory mechanisms (new governance, funding, curriculum and redress norms and standards) which will apply in a coherent manner to the entire system of FET. However, whereas HE is regulated by the National Department of Educaiton which can effectively steer the system through the HE's budgetary control mechanism, coherent state guidance of FET into a single system is compromised by two significant complications:

Σ Nine Provincial Departments of Education which exercise full control over the FET sector;

Σ A National Department of Labour which has regulatory powers over all publicly funded industrial training schemes such as the learnership system, and over all enterprise-based training.

The National Department of Education's ability to steer FET in the direction of a single co-ordinated system through financial and other incentives may be seriously undermined by the provincial departments' control of the block grants which they receive for social service expenditure. For example, funding incentives for good institutional planning undertaken against the background of nationally determined priorities may be of no consequence if provincial departmental allocations to FET colleges ignore such incentives. Already, there are strong indications of different approaches in the nine provinces. Although the GPFET see governance as a National Department of Education's responsibility, it should have addressed the other issues of concurrent and overlapping powers and given more clarity on the matter.

- **Division for FET at National Level**

The logic of the NQF approach is to thinks of the total FET system in terms of three bands – GET, FET and He. However, only the HE and GE band have been assigned distinctive divisions within the National Department of Education – why not the FET band?

The main thrust of the GPFET is to argue that both economic globalisation and internal social reconstruction point to a FET band playing the most critical role in the future rebuilding of our nation. This is because FET is closer to the workplace and closer to community needs than either GET or HE. The importance of its status is not recognised in terms of a distinctive division at a national level even though the size of the envisaged FET band in the future is far larger than the envisaged HE band. This reluctance to recognise FET's key status in the future runs counter to the main argument of its importance as presented in the GPFET.

- **Diversity of Institutional Types**

The debate that raged about the possibility of diversity of institutional types-whether to establish community colleges in the place of existing technical colleges or whether to upgrade existing technical colleges into comprehensive colleges or dedicated specialist institutions such as engineering colleges or commercial colleges-has now been resolved. There will be two types of colleges, public and private, which will be differentiated or characterised by the programmes they offer.

The proposal made earlier regarding a prescribed social responsibility function needs repetition here. All colleges, and not only those designated as community colleges, must respond to the employment and social needs of marginalised communities in their neighbouring environs. IN this way, all colleges must through focused curriculum development and capacity-building programmes encourage self-employment, small business, entrepreneurship, local initiative, community development and self improvement.

4. CONCLUSION

South Africa cannot afford the luxury of expensive, exclusive and elitist systems of education. We have to acknowledge realistically our disadvantaged past, our current need for radical social and economic change and the great demand from hundreds of thousands of people for quality, accessible and affordable education and training. Within this context, the FET sector has a vital role to play in the restructuring of the New South Africa.

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TOTAL QUALITY IMPROVEMENT IN VOCATIONAL EDUCATION

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Abstract

The "Quality" of education is a hot topic across the world where Governments are seeking "value for money" returns from the education institutions which they fund. Numerous performance indicators have / are being developed against which "quality performance" is being "measured" and against which differential funds are being allocated. Everyone is after "more for less", the Quality of Education has become big business with a wide range of quality systems, concepts, processes, techniques, etc, etc, being banded around as we try and find the "ideal quality process to use in education. Performance Indicators abound and confusion reigns as many of the quality systems, etc, which were originally developed in the manufacturing industries of Japan, Europe and the US, were adapted for the Service Industries and are now being further adapted for the "education business". It is considered that many of the quality systems and performance indicators are too mechanistic for education and ignore the fundamental need to identify the "customers' needs and maintain academic standards. This paper explores one approach to the implementation of Total Quality Improvement.

Background

Although the Vocational Training Council (VTC) was established in 1982 there was already a long history of Vocational Education and Training (VET) in Hong Kong stretching back for many years before. VTE had therefore developed like "Topsy" resulting in an organisation with 24 Training Centres, 7 Technical Institutes, 2 Technical Colleges and Skills Centres for the Disabled offering some 20,000 full time and 90,000 part time VET places. The graduates from these courses had historically been well received by employers with almost every one who wanted a job getting one and all those who wanted to continue studying for a higher award, i.e. a degree, being able to do so either in Hong Kong or overseas. So the quality must have been good mustn't it ! So why change ?

The problem was that the Hong Kong economy was changing and the needs of the VTC's customers were changing and the question was asked as to why the VTC did not recognise the change and was slow / unable to meet the new requirements. A Government sponsored Management Review of the VTC highlighted areas of concern and a new Executive Director was appointed in 1997 to review the Report and implement changes to move the VTC into the 21st Century. It was clear that the internal structures, processes and procedures developed over many years were not flexible enough to meet the need for change. A new Culture was required within which major changes could be identified and implemented. A Strategic Plan was needed along with the identification of a clear Vision and Mission for the new VTC within the new Quality Culture, but which quality system would be best, who where the customers and what where their needs.

Quality Systems

ISO-9000 is a series of International Standards for Quality Systems developed by the International Organisation for Standardisation whose objective is to promote the development of standards, testing and certification in order to encourage the trade of manufacture goods and services. Registration provides organisations with a stamp of approval in recognition of their internal quality procedures and systems. These standards only look at those aspects of a Quality Culture which relates to procedures and Quality Assurance, hence, they do not guarantee quality or continuous improvement. The only guarantee is that a set of procedures relevant to the organisation concerned are in place and that a quality management system exists to ensure that the procedures are followed by all staff to ensure that all product conforms to an agreed standard of performance and specification.

Although academic standards are an important aspect of the quality of VET provision it is not required that all products, i.e. students, perform identically to an agreed standard or specification. For a given qualification there is minimum education standard for students at entry, a minimum academic standard for students at graduation and there is a need for validation / accreditation processes and procedures for the courses that they study in between. However, to consider that we should have quality processes to ensure that all graduates from a given course are identical is abhorrent. The rich variety and competence of people is essential to the well being of industry and commerce so that graduates can be matched to the wide variety of job opportunities. Likewise the thought that all courses should be identically structured, taught and assessed is equally nonsense.

Very few tertiary educational institutes over the world have obtained ISO-9000 registration, however, there are some examples of ISO-9000 registration for specific activities to meet international requirements or to ensure conformance for a specific validation or accreditation process. There are also many anecdotal rumours of educational establishments investigating then abandoning an application for ISO-9000 registration.

The VTC also reviewed the appropriateness of implementing ISO-9000 in the two Technical Colleges and found that there was only a tenuous link between the standards and the operation of an educational institution. The Working Party believed that ISO-9000 was therefore not well fitted to the Colleges and that an alternative less procedurally driven and more flexible approach was required.

Total quality Management (TQM) has become the management style of the 1990s. Managers and workers have been forced to improve efficiency and effectiveness, to become more aware of the need to understand and satisfy customer needs and to work towards the continuous improvement of quality (Kaisen). The Japanese have taken Kaisen as **the** major aspect of their competitive advantage.

A revolution has therefore successfully occurred in quality management in the past few years. Quality is now on the mind of every entrepreneur. Even public services and agencies that had traditionally been viewed as not caring about the quality of their products and services are now aggressively pursing quality improvement standards.

Customers are more sophisticated now that they will no longer simply accept whatever is offered in the market. In the past, consumers were expected to make do with the inherent quality of the available product, no matter how poor it was. This has changed dramatically in the past few years. For a product to satisfy the taste of the modern consumer, it must exhibit a high level of quality. Only high quality products and services can survive the market competition.

Dr. Deming is the most widely known of all the quality gurus. As Deming stated *"Everyone doing his best is not the answer. It is necessary that people know what to do. Drastic changes are required. The responsibility for changes rests on management".* Thus, Deming put the responsibility for continuous improvement of products and services to meet customer needs and to stay ahead of competition on management. Deming's major philosophy is that quality improvement is achieved through the statistical control of all processes (not just those involved with the product) and the reduction in variability of these processes. He emphasises that this can only happen if management allows it to happen, by encouraging employee participation, and if employees are able to contribute, through better understanding the processes and how they can be improved.

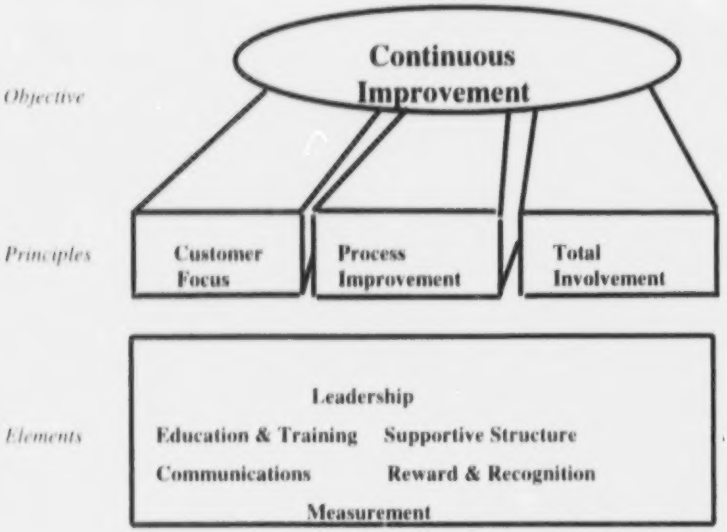
Based on the quality philosophy of Dr. Deming, the **Malcolm Baldrige National Quality Award** was introduced in the USA in the late 80s for industries to achieve their quality goals. Many US companies have introduced a quality culture based on the criteria for the award. In 1995 they launched the draft Education Requirements for Performance Excellence and in 1998 the requirements are formalised for implementation. The Awards are based on 18 Items of assessment across 7 Major Categories with each item being allocated a points value with an overall maximum of 1,000 points. On the surface this was again a more structured and rigid approach than was deemed appropriate for the first phase, although it was worth considering as the next step after a more flexible Total Quality Improvement (TQI) programme had been introduced.

Total Quality Improvement (TQI)

Total Quality Management and Continuous Improvement can be defined as :-

> " *The whole organisation working closely together within a support oriented culture / environment to achieve ever increasing excellence of performance and service that completely satisfy both internal and external customers by meeting their explicit and implicit expectations.* "

A simple but effective model for implementing Total Quality Management takes the concept of Continuous Improvement and builds on three fundamental principles of total quality.


Objective
Continuous Improvement
Principles
Customer Focus
Process Improvement
Total Involvement
Elements
Leadership
Education & Training
Supportive Structure
Communications
Reward & Recognition
Measurement

Implementation Concepts from "TQM - Three Steps to Continuous Improvement", Tenner & DeToro

The approach being taken to TQI in the VTC is a process of continuous improvement achieved by departments and sections working towards the implementation a Quality Policy :-

> *" To create a culture and working environment within which all staff can develop their capability and maximise their contribution to the provision of a total education and training experience which will enable students and trainees to make the most of their potential, and subsequently meet the manpower needs of the economy. "*

The implementation of this Quality Policy is being achieved "Bottom Up", that is through Staff taking ownership for the development of local quality policies and programmes which enable them to demonstrate their commitment to the VTC Policy. Each Unit is therefore empowered to produce a Local Quality Policy document, which recognises their operational requirements, and clearly states how they intend to implement the concepts as laid down within the VTC Policy. Each Local Quality Policy should recognise and bring together all the existing good practices, introduce new practices and clearly do away with the recognised bad practices so that the required new Culture can emerge. Ownership is a key issue hence the Local Quality Policy should be developed by staff from all relevant levels under the guidance of their local management

Customers and Suppliers

Throughout our normal lives we are continually involved in customer-supplier relationships. TQI requires us to consider our working lives in the same way. The development of a supportive service culture requires us to identify those situations in our work environment in which we are the customer and those in which we are the supplier of a service. These customer-supplier relationships occur both internally and externally to the VTC. The external relationships are not always the most easiest to recognise but the internal ones are definitely more difficult to identify for most staff.

In either case each Unit needs to recognise their specific customer-supplier relationships both internal to and external to their own area. They also need to recognise when they are a customer and when they are a supplier so that they can clearly identify the needs of the partners in the relationship and how best to meet these needs. The Local Quality Policy should clearly identify the major customer-supplier relationships and needs of both sides. With respect to the relationships with Units external to their own there needs to be an agreed set of requirements and needs from both sides of the relationship.

Students and Employers come First

The new organisational structure facilitates a culture and environment within which the educational and training processes are actively supported to ensure that teachers and trainers are able to meet the needs of our main customers, students and employers. Government and management are at the bottom of the pyramid providing the right environment, the various support mechanisms and academic and administrative support units are in the middle and Teachers are at the top providing a direct service to the students and employers who are the main customers.

It is management's function to create and monitor the working environment to ensure that teachers and trainers receive the necessary support to enable them to meet the ever changing needs of the customers. All teachers and trainers have a responsibility to accept and implement change through the continuous monitoring of their performance and the views of their customers to ensure that they are delivering a quality service in terms of their teaching and learning. It is also the responsibility of all academic support and administrative support staff to ensure that the service they provide adds value to the education and training process.

Measurement and Audit

It is not possible to maintain quality programmes and Continuous Improvement if we do not know how we are currently performing. It is therefore necessary to devise and implement both quantitative and qualitative measures and performance indicators against which each Unit can undertake self evaluation as part of an audit process. It is recognised that these measures may well be different for education, training and support sections, hence, each Local Quality Policy should include methods and indicators for measuring quality performance. They should also consider setting up their own version of a Customer Charter, which would clearly define the targets to be set and how performance would be measured.

Some of the quantitative and qualitative quality measures will be generic across all or groups of Units. A TQI Sub-committee Working Group is set up to help facilitate and continuously monitor developments in this area.

Conclusion and Acknowledgement

The above paper provides the outline for the IVETA Conference Proceedings, however the full paper explores the above concepts in more detail. The views expressed in this paper are those of the author and do not necessarily represent the official views of the Vocational Training Council of Hong Kong to whom the author offers his thanks for permission to publish this paper.

A TOTAL QUALITY MANAGEMENT BASED INSTRUCTIONAL AND EVALUATION STRATEGIES FOR THE VOCATIONAL TECHNICAL EDUCATION

—AN EXAMPLE FOR COMPUTER NUMERICAL CONTROL COURSE

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Abstract

The purpose of the study was to validate the analysis and design processes in a quality instruction model (QIM), so that the customers' needs, course objectives, course outlines, instruction and evaluation strategies can be determined. Based on the QIM, a computer numerical control (CNC) course was selected, and an action research method and survey were utilized to collect data. The techniques such as Quality Function Deployment (QFD), DACUM, Brainstorming were used within the research. After analyzing the research data, several conclusions were obtained. The customers' needs for the CNC course include program and cutting condition design, equipment operation and maintaining, and safety attitudes. In addition, the students' achievement of CNC has high correlation with mechanical comprehensive ability, computer literacy, and engineering drawing. Since the CNC course include a large part of problem solving materials, the instruction must include discrimination, concrete concept, define concept, rule, high order rule, and cognitive strategy, and so forth. The performance assessment was also recommended to the CNC course.

Keywords: total quality management; instruction strategy; vocational technical education.

Introduction and purpose

The instructional quality is crucial for the vocational technical education. The quality is not a single issue but it also need a holistic approach to deal with. The instructional system design (ISD) approach includes the processes of analysis, design, development, implementation, and evaluation; it can be seen as a process oriented problem solving approach for the curriculum and instruction sectors (Macchia, 1992; Schwaller & kiser, 1995; Chao, 1996). On the other hand, total quality management (TQM) can be defined as a philosophy and technique of quality improvement, is based on the customers' needs to get top management commitment to continuously improve the quality of product or service. According to several research results, TQM can be transferred to the education sectors to improve quality (Deming, 1993a; Deming, 1993b; Chao, 1994; Chao, 1997). When considering TQM in education, there are several key points that must be considered by the educational professionals:

- Internal and external customers for a course must be determined carefully,

- Systematic processes for a course design and development must be assured,

- Top management must have TQM and instruction knowledge and fully support the teachers; and,

- Data collection and analysis techniques must be introduced to the teachers.

Based on the above discussion, both TQM approach and instructional system design approach can be utilized to develop a Quality Instructional Model (QIM) for improving the instructional quality in vocational technical education (Chao, 1996). Therefore, the purpose of the study was to validate the analysis and design processes for QIM, so that the customers' needs, course objectives, course outlines, instruction and evaluation strategies can be obtained to improve the quality of CNC instruction.

Procedures and methods

Three methods were used in the research to collect data. Document analysis was first used to establish conceptual QIM for vocational technical education. Based on the QIM, the CNC course was selected from vocational high school, and an action research method included some techniques such as: quality function deployment (QFD), DACUM, Brainstorming, cause and effect analysis were utilized to analyze the customers' needs for CNC course. In order to understand the learners' characteristics for entering the CNC course, a survey method was also conducted. An on purpose sampling procedure was used to select 45 students from the Affiliated Vocational High School to National Changhua University of Education. The achievements of CNC course and other related professional courses within three years period were collected and analyzed. Another cluster sampling procedure was also conducted to 6 vocational high schools, and the achievements from 552 students were collected. Based on the data collected, multiple regression and principal components analysis were conducted to analyze to characteristics of students when entering the CNC course.

Findings and Conclusions

After conducting the DACUM and QFD procedures, the customers' need for the CNC course were: the ability of operating CNC machines, The ability of program design and cutting condition setting, the ability of maintaining CNC equipment and tooling, and safety attitude toward CNC machines. According to the results of multiple regression, the significant courses correlate to the CNC achievement included: Basic Mechanical Skills Practice, Drawing (include Computer Drawing), Language (Mandarin and English), and Physical Education (Table 1). After conducting the principal component analysis, there were seven components for the CNC course: Engineering Drawing, Computer Literacy, Basic Mechanical Skills, Mathematics, English, Mandarin, Physical Education, and Moral Education (Table2).

Implications and recommendations

According to the research results, the flexibility of the analysis and design procedures within the quality instruction model was ascertained.

QFD and DACUM were effective techniques to determine the customers' needs. Brainstorming and cause and effect techniques were also useful for designing the course objectives and outlines for the vocational technical education. In addition, for the CNC course, comprehensive problem solving ability is crucial for the customers, the instruction must include discrimination, concrete concept, define concept, rule, high order rule, and cognitive strategy, and so forth. The performance assessment (authentic assessment) was also recommended to the CNC course.

Table 1 Results of multiple regression

School Course	Nan-Kong	Ta-Ja	Don-Shi	Chang-hua	Hu-Wei	Chung-Zing	Total
English(1)						*	1
Mathematics(1)	*			*			2
Electricity(1)		*					1
Drawing(1)	*						1
Computer(1)				*	*		2
PE(1)	*						1
MP(1)	*			*			2
Mandarin(2)	*					*	2
English(2)			*				1
Mathematics(2)							1
Chemistry(2)			*	*			2
Drawing(2)							1
MD(2)	*		*				2
PE(2)	*		*		*		3
ME(2)			*				1
MP(2)				*			1
Mandarin(3)	*				*		1
English(3)		*	*				2
Drawing(3)		*	*		*		3
ME(3)	*			*			2
MP(3)	*		*	*			3

* Significant at 0.05 level MP: Mechanical skill Practice ME: Moral Education PE: Physical Education MD: Mechanical Design

Table 2 Results of principle component analysis

School Course	Nan-Kong	Ta-Ja	Don-Shi	Chang-hua	Hu-Wei	Chung-Zing	Total
Mandarin	*	*		*		*	4
English	*	*	*	*	*	*	6
Mathematics	*	*	*	*	*	*	6
Drawing	*	*	*	*	*	*	6
Mechanical skills	*	*	*	*	*	*	6
Computer literacy	*	*	*	*	*	*	6
Physical education	*			*	*	*	4
Moral education		*	*	*		*	4

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IMPROVING QUALITY OF VOCATIONAL AND TECHNICAL EDUCATION IN TURKEY

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ABSTRACT

In recent years a number of studies were conducted for improving the quality of vocational and technical education in Turkey.

Findings of these studies indicate that in restructuring the system the following points should be considered: school-industry should co-operate, as a partner, in preparing people for employment; more power should be given to local authorities in decision making; industry sholud be involved in planning, implementing and evaluating vocational and technical education. Curriculum sholud be developed around occupational clusters and core programs.

IMPROVING QUALITY OF VOCATIONAL AND TECHNICAL EDUCATION IN TURKEY

The rapid development in technology, the globalization of markets and improvement in communication have affected the national economies of countries.New challenges and new demands are making necessary to reevaluate the educational system in Turkey. In order to meet new standarts of national and international, the education system in Turkey is being restructured. The reason for restructuring is indicated in the METE Report (1994) as follow;

"The old industrilized companies reguired workers who would show on time, would tolerate repetitive tasks, would comply with standardized policies and procedures, had good work ethics,and had some narrow, specialized skill. These are no longer adequate for the worker in the high-performance company. The new high- performance workers must be able to understand and use technological applicationas, to adapt rapidly to changing conditions, to solve problems, to communicate effectively, to work in teams with different types of people, to take personal responsibility for the quality of product of service being produced, and to have technical skills that can be adapted to rapidly changing conditions."

It has become obvious that the skills and abilities of the new high-performance workforce require a drastically different type of training than did the old, indsustrialized workforce. This, in turn, is the challenge facing Turkey's Vocational and Technical Education and Training System.

In recent years, a number of project were implementted and a considerable amount of studies were completed to up-date technical and vocational education in Turkey. This paper attempts to summarize the results of these studies.

School- Industry Partnership

In Turkey, the apprenticeship and vocational training law (no: 3308) which came in to effect in 1986, requires that companies with fifty or more employies provide skill training to vocational high school students. At the present approximately 125.000 students taking their skill training in 44.000 firms.

A number of studies regarding the effectiveness and efficiency of industrial training has been completed.Research studies indicates that school- industry co-operation as far as skill training in companies is concerned is accepted by all groups : employers, industrial trainers, school coordinators, managers and students.

From school point at view until present time , there were three main reasons for collaboreting with industry. (1) It is too hard for schools to buy the special machine and equipment that have a significant place in production.Some machines are very expensive, yet day become out-dated in a very short time. (2) Schools want to keep their graduates employed.

(3) Students develop employable skills while working in real employment enviroment. Studies show that school industry co-operation should not limit itself with skill training only. Industry should be involved in preparing high- performance worker with more responsibilities. This point indicated in the feasibility study (1997) such as:

"To achieve learning based on new developments, students must be able to relate new knowledge within a context that is meaningfull to them (such as their experience, current cıonditions, or habits). In other worlds student aquire new knowledge by transferring or relating that knowledge within a context they already understand. Therefore, students require a variety of learning conditions such as classrooms, laboratories, and enterprise-based experiences. To attain this objective, educators should have evaliable to them settings that evoke different social, culturel, physical, and psychological responses."

"Given the learning tendencies mentioned above, economic and technological developments require that vocational schools change the methods they have employed so far in "producing" the labor force."

The efficacy of "learning by experiencing "has been proven on numerous occasions. In vocational and technical education, attainment of experience in actual work conditions is possible with many different methods in addition to school- company cooperative education and apprenticeship training.

Finding of studies show that firms are open undertaking the responsibility for producing the qualified labor force they need, even there were no legal obligation. Many small companies which are no obligated to participate in training of the students are providing training to students.Firms also indicated that the students may participate in industrial training inmore younger age.

Studies indicates that school-industry co-opetation, as partner in preparing youth for employment, provide a solid foundation for restructuring technical and vocational education in Turkey. Industry is ready take an active role in the development of competencies needed, in determining curriculum stategies for contextual delivery and academic subject, in planning technical and vocational education and in the actual delivery through intership, apprenticeship and co-operative education.

Decentralization of System

The present system is extremely centrelized. Many decisions are being taken by the Ministry of National Education . Local participation and collaboration is very limited.The need for decentralization in indicated in feasibility study - Final Report (1997, 2) as follow;

It will be necessary to establish a hierarcy for the educational system in Turkey that consist of regional and provicial administration for the new system of secondary education. As much administrative control as possible should be passed down to these local levels so that decision making reflects local needs. The central ministry should be responsible for working with parliment to recommend, establish, and disseminate national policies to evaluate system, to set-up standards and to provide financial resources. Regional systems within Turkey must have the opportunity to develop a new system that addresses local workforce development needs and effectively prepares for work or postsecondary education. The solution to these needs should come from a collobrative effort within each region of the country. The collobration should reflect a partnership between secondary and postsecondary institutions, academic and vocational systems, and business and education communities, or apprenticeship training/certification.

In METE Report (1994), the resposibilities of local, provincial and national level are described, as follow:

Responsibilities of the Local Schools

The main goal is to develop a school model which is sensitive to enviromental changes, responsibilities of local school include:

- Conduct need assesment studies in region
- Work with local industry to identify required skill standards
- Develop curricula to meet the required skill standards
- Provide necessary instructional materials and equipments
- Prepare instructional materials
- Conduct follow-up studies

Responsibilities at the Provincial Level

The major objective is to develop a system which includes self-assessment, responsibility and the monitoring of program development research. responsibilities of provincial educational office should include:

- Conduct provicial labor market surveys
- Prepare provincial long-term vocational and technical educational plans.
- Provide assistance to local schools in developing curricula to train students to meet required standards.
- Provide province wide staff training
- Coordinate and disseminate combined results of graduate follow-up studies
- Seek sources of funding at the provincial level

Responsibilities of Ministry of Education

The Ministry of National Education should conduct national-level labor-market surveys and develop relations with higher business management personnel. The Ministry should also develop model programs, monitor local curriculum studies, evaluate curriculum with standards and disseminate the new information through publications and forms.The basic reponsibilities of the Ministry should include:

- Conduct national labor market surveys.
- Formulate policies, principles, and strategies
- Develop mechanisms for collaboration between education and industry
- Provide assistance in development of curriculum and model programs
- Seek new financial sources
- Provide guidelines for curriculum development conducted by local schools
- Accredit vocational and technical programs based upon specified criteria
- Develop a national-level staff training program (administrative and instructional)
- Coordinate and disseminate the combined results of graduate follow-up studies
- Develop an occupational-standards skill-testing and certification system
- Disseminate information through publications and forms

Curricula and the Needs of Industry

Studies (METE Report, 1994; Feasibility Studies,1997) indicate that if technical and vocational schools in Turkey are to meet the rapidly changing needs of industry, local schools must:

- develop ways to establish and maintain a close working relationship with industry.
- develop ways to quickly identify industry needs, modify or develop curriculum that respond to the needs.

This process requires on-going research in labor market needs and follow-up studies of graduates. It is suggested that each school should have at least one or two curriculum research specialist for conducting labor market needs and follow-up studies of graduates. In the last five years a considerable progress has been made in some vocational schools. For example,in 57 Vocational and Technical High Schools for Girls where METGE Project is implemented, school-based research studies are carried out by three specialist teachers (METGE Project Reports).

A school-based industry advisory council is proposed by a number of studies(METGE Project, METE Report). Industry advisory council should provide a structure that allows people engaged in varios occupational fields to evaluate curricula and make certain they are relevant with the needs. Industry advisory council should provide the communication necessary for the school to anticipate future developments in an occupational areas. So far school based industry advisory council are established only in few school.But they are not very much effective. One of reasons, for not being very effective is that, schools does not have power to respond quickly to the needs. The provincial apprenticeship councils which are establised by 3308 act are also not very efficient and effective. Studies show that they should have power to respond to request regarding curriculum modification from industry.

On the local level, information regarding labor market should be provided to education and training institutions. These data will improve program planning and job placement effectively.Without the provision of accurate and timely information to assist the people of Turkey in making informed career and labor market decisions, the secondary vocational education system cannot adequately meet the curricular and enrollment reguirements of business and industry.

At provincial level vocational planning unit to be established is proposed by METGE Project 1993, and METE Report 1994. So far very little progress has been made in some girls vocational schools. Unless the Ministry of National Education delegates some power to provincial level, it looks it is very difficult to develop local initiation. Proposed research and advisory bodies are seen in Figure 1.

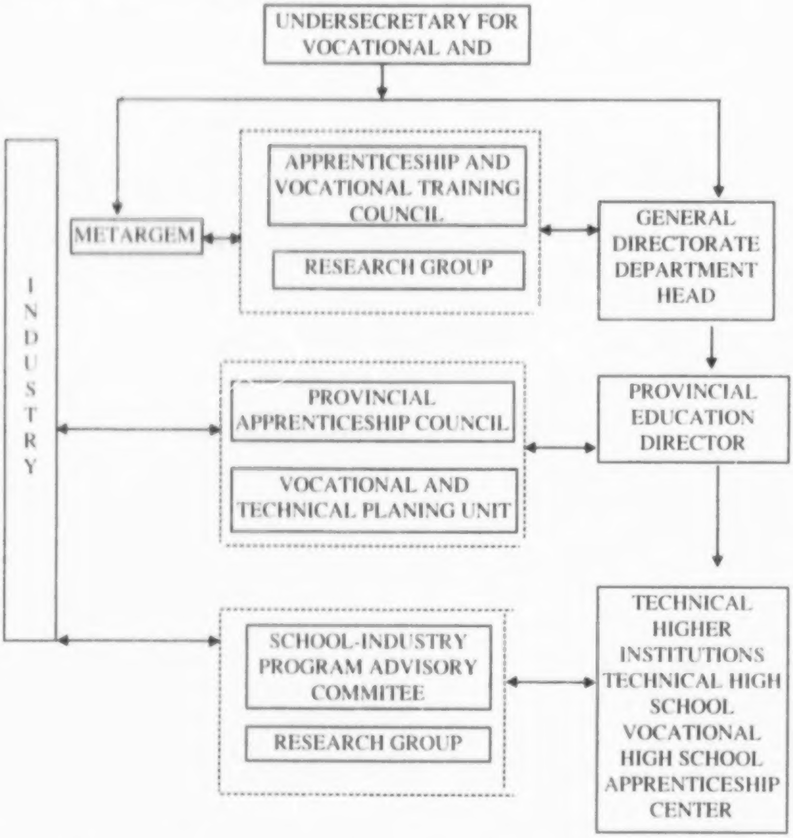
UNDERSECRETARY FOR VOCATIONAL AND
INDUSTRY
METARGEM
APPRENTICESHIP AND VOCATIONAL TRAINING COUNCIL
RESEARCH GROUP
GENERAL DIRECTORATE DEPARTMENT HEAD
PROVINCIAL APPRENTICESHIP COUNCIL
VOCATIONAL AND TECHNICAL PLANING UNIT
PROVINCIAL EDUCATION DIRECTOR
SCHOOL-INDUSTRY PROGRAM ADVISORY COMMITEE
RESEARCH GROUP
TECHNICAL HIGHER INSTITUTIONS TECHNICAL HIGH SCHOOL VOCATIONAL HIGH SCHOOL APPRENTICESHIP CENTER

Figure 1. Proposed Research and Advisory Bodies in Reconstructioning of System

Career Clusters and Core Curriculum

At the present tehere are over thirty different (Anatolian, Vocational, Technical, Girls etc.) kinds of vocational and technical schools in Turkey.Approximately 400 different programs are being offered in these schools. In some programs, students start specialized vocational skills in a early very stage. To reduce the different kinds of schools and to postpone occupational specific training in later years, career cluster and core curriculum model is recommended (Feasibility Study, Final Report, 1997).

Major restructuring of this kind requires that the numerous specialized programs at the secondary level be organized into occupational clusters.It is proposed that the occupational specific content at the secondary should be reduced from 66% to 15-20 % of curriculum focus. Occupational specific contents will be offered in post secondary level and in industry.

In the Feasibility Study-Final report (1997) cluster model, as seen in Figure 2, is recommended. Figure 3 and 4 provide examples of typical occupations that fall within clusters 4 and 7 grouped by career majors.

Cluster Model

Clusters	Career Majors	
1. Business, Marketing, and Management Occupations	Management Finance Administrative Services	Marketing Computer Network Systems
2. Engineering, and Science-Related Occupations	Electromagnetic Technology Mecanical Technology	Chemical Technology Earth and Atmospheric Technology
3. Community and Consumer service Occupations	Legal Services Counseling Services Public Safety Regional Development Grooming Services	Family Services Hospitality/ Travel Cleaning Services Food Technologies
4. Arts, Madia, and Communication Occupations	Creative Arts Applied Arts Liberal Arts	Education Information Services Publishing Services
5. Construction Occupations	Construction Trades	
6. Service Technician Occupations	Light Mechanical Service Heavy Mechanical Service	Transportation Service and Repair
7. Manifacturing and Production-Related Occupations	Industrial Desing Research and Development Manifacturing and Production Operations	Industrial Maintenance Industrial Support Transportation Operations

Figure 2. Cluster Model.

Clusters	Career major	Occupational Field
Arts, Media, and	Applied Arts	Graphic Arts
Communication		Textile Desing
Occupations		
		Glass & Ceramic Desing
		Industrial Desing
		Interior Desing
		Fotography
	Creative Arts	
	Performance Arts	

Resource: Akgül, F. Classwork and the Doctoral Program, Unpublished Study , Faculty of Educational Sciences, Ankara University, 1997.

Figure 3. Arts, Media and Communication Occupation Clusters

Clusters	Career major	Occupational Field
Manufacturing and	Industrial Design	Computer Aided Desing
Production-Related	Research and	Industrial Desing
	Development	
Occupations		Industrial Engineering
		Piping System Desing
		Tool and Die Desing
		product Desing
	Manufacturing	Boilermakers
	and	
	Production	Chemical processing
	Technology	
		Computer Aided
		Manufacturing
		Electronics Control and
		Instrumentation
		Food Processing
		Industrial Production and
		System Management

Resource: Feasibility Studics, Final Report, P.15.

Figure 4. Manufacturing and Production- Related Occupations Clusters

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In Career clusters and core curriculum model, stidents start with a broad area and as they progress, they get training about specific occupation in later year. In the final report it is mentioned as follow:

"Individual schools will select which clusters they wish to incorporate from the model develop in the first invesment phase. A school may in corporate only a single cluster in which case it would fit the definition of a single " career academy", or it can incorporate several (or all) clusters depending on local needs and resources. Local advisory groups will be crucially improtant at this point to assist in identifying emploument needs that should be considered in cluster selection. National economic and employment data will also be very relevant to these decisions.

In every school the common core curriculum would be implemented. Since the core will include the essential academic content as well as employability skills and basic occupational skills applicable to most jobs, students from any school would be equally prepared to proceed to employment from secondary school completion or to continue with postsecondary education. In addition, each student will have some specific occupational skills within one of the clusters offered by the school attended."

Is is widely accepted that core programs should be developed by the Ministry of National Education and leaving field of specility to be desinged by schools with local imput. It is also adviced that businesses should be involved in certification of skills acquired by yhe students.

Teacher Training

Pre-service and in-service teacher training programs are very critical to the succes of career clusters and core curriculum program. Success of any educational initiative is directly related the quality of educational personals.

The cost and capasity report (1997) shows that no single factor affect the efficiency ofvocational and technical schools in Turkey more than human capacity. In the project Final Report(1997) the point is stressed as follow:

" In fact, the utilization of teachers and administrators in the secondary vocational system in its present state has a singificantly higher impact on efficiency than buildings, classrooms, laboratories, equipments, or materials. Acroos the 14 programs studied, the teachers make up 74.6 % of the cost per student, with the other ingredients-buildings, equipment and general expenditures- being 10.2 % , 8.35 %, and 6.85 % respectively."

In conculusion it could be said that in up-dating the present vocational and technical education system in Turkey, implementation plan and power to implement the plan is missing.

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THE QUALITY STUDIES IN THE TECHNICAL EDUCATION SYSTEM IN THE UNITED KINGDOM AND A MODEL FOR TÜRKİYE

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ABSTRACT

In this study, mentioning about the development studies in the Vocational and Technical Education in Türkiye, a model is being offered for our country by means of the introduction of the quality studies and the Vocational and Technical Education System of the United Kingdom.

1. INTRODUCTION

As it is known, the classification of the manpower in industry is done as in the figure below.

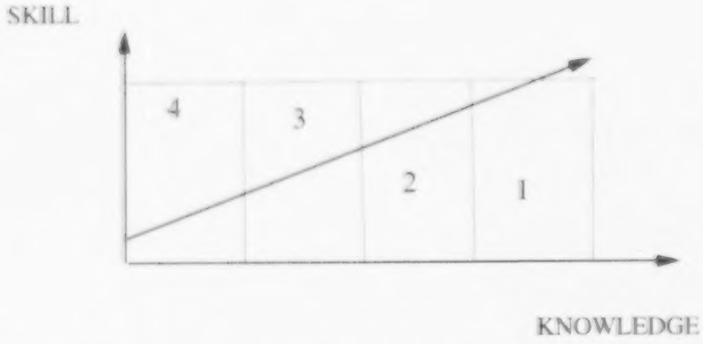
a) expert

b) staff in middle-level (higher technician or professional staff)

c) Qualified worker (forman-technician)

d) semi-qualified worker

When the diagram below is examined, their positions according to each other will be seen easily in terms of the level of knowledge and skills of the staff groups above.



The history of the Vocational and Technical Education in Türkiye is extending to the early of 1900's. The Industrial Vocational High Schools and Commerical High Schools (after the compulsory education (8 years), 3+1 years more) are training the category number 3.The Vocational Colleges of the Universities (2 years after the high school), are training the number 4 category.

Although there are some important problems internally and on the relations between each other for the education in the both categories, the main problems are usually similar to each other.

Here, we are only going to present the situation and the problems of the number 2 category.

The history of the vocational colleges which train the technicians and vocational staff extends to 1976. The number of these colleges, which were 33 at the beginning in the structure of the Ministry of National Education, are nearly more than 400 up to date, and they are studying in 180 various programmes as being the unities of the universities. There are incredible differences among these institutions in terms of the development levels and the education standarts. It is possible to classify these institutions whether the ones (30) which are in the Industrial Education Project of YOK (Higher Education Council) and WB (World Bank) and the others. The colleges which are in the project of USD 210 million have been developed in some basic subjects such as curriculum, equipments, academical staff, management, buildings and have been brought up to the standarts of developed western countries.

Ones which are out of these institutions which have 45 percent of general number of the students have got many serious development and standart problems. Also, the developed vocational colleges must always be kept at the same level of developments as well.

2.THE VOCATIONAL AND TECHNICAL EDUCATION SYSTEM AND QUALITY STUDIES IN THE UNITED KINGDOM.

As it is known, the United Kingdom is composed of England, Scotland, Wales and Northern Ireland and we can say that the Vocational and Technical Education Systems and implementations are the same (in a little difference) with each other. However if a classification is made we can put Scotland into one group and the others into another group. We are going to present the implementations in the United Kingdom, which we got a lot of benefits from, with the example of Scotland which we concern (in a little difference) more succesful in the work field of YÖK, WB and ITP(I,II).

The compulsory General Education (Basic Degree) in Scotland (with a little difference in all the United Kingdom) is totally 11 years. Students attend to the primary school from five to eleven years old and also students attend to the secondary school from 12 to 16 years old.

There is also an education type which is optional (like high school and it is called sixth form college) for two years after compulsory education. After these educational institutions there are Further Education Colleges, Higher Education Institution (FEC, HEI) and Universities.

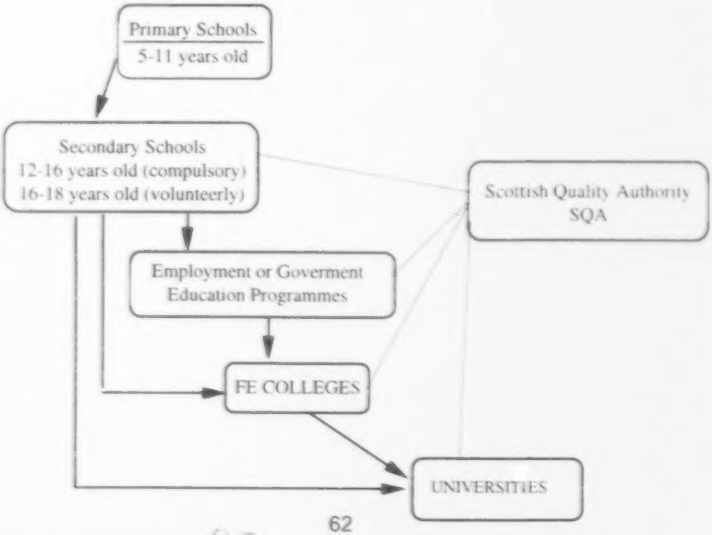
After General Education and Training, there are three options for students that are : Academically (Through University), Vocational Education (HNC/HND), Workplace Based Education (NVQ level 1...5).

The flexibility in education and application is beyond a reform, and modular system which formed the essential of the flexibility was transferred. The base of the modular system is depended on the competency of every module by its own, to provide opportinuties to gain specific qualifications by unifying modules, the ideas which provide facilities to enter the system without stipulating time and place at any stages.Scottish Qualification Authority (SQA) is an autonomous institution which was constructed on April 1, 1997 by combining SCOTVEC (Scottish Vocational Education Council), which is a new

Qualification Institution for Scotland, with SEB (Scottish Examination Board). Its task is to approve, to evaluate, and to examine educational institutions which are equal to secondary education and Vo-tech education, and also, regarding to these essentials to accredit the qualifications in vocational education, to improve and to award them for fixing the standarts at national level. Moreover, the mentioned institution has efforts to develop national standarts according to international levels. When we classify the education in three branches which are academical, vocational, workplace based in Scotland (the situation is a little bit different in the U.K.), SQA certifies, evaluates, approves the validity of vocational courses in some Universities, Vo-tech education, workplace based courses and general education (basic degree).

Under the lights of the determinations given above, the role of SQA are; the improvement of new qualifications, life-long education, simple flexible frame, path ways of progression, real service benefits. Vo-tech education is performed in FEC and HEI in Scotland. The candidates for these institutions are; who finish basic degree, adults, foreign students, disabled people, and people have difficulty in learning, employee and employers, local initiative and local authorities.

The relationships between SQA and institutions and workplaces are shown in the figure given below;


Primary Schools
5-11 years old
Secondary Schools
12-16 years old (compulsory)
16-18 years old (volunteerly)
Scottish Quality Authority
SQA
Employment or Goverment
Education Programmes
FE COLLEGES
UNIVERSITIES

The aspects of vocational qualifications of SQA include the following :

I They are unified modulars,

II Open to collect credit and transfer

III Competency based

IV The criteria to evaluate is early determined

V Transferred the evaluation to centers

VI Encourages the student centered learning.

VII Awards the qualification certificate of individual unit/module.

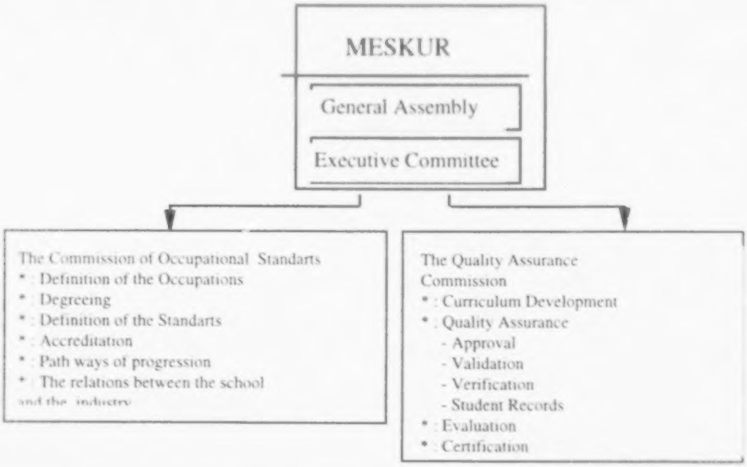
Each module, which is based upon 27 profession groups, is planned according to 40 hours duration and is being written with a common format.

If we define the quality as fitness to purpose and if we consider it in terms of vocational qualifications, it means to give a certificate to meet the demands of the establishments which are accepted as customs and are determined as government, commerce and industrial sector and contributing cooperative individually. SQA declares that gaining of the quality is succeded in two ways. Internally, SQA formed a quality assurance system in its own. Externally, BSEN ISO 9000, which is the standard criteria for English and European Quality System, is being followed. While they are forming common criteria for Scottish Quality Management System (SQMS), they had agreement with important establishments which are Scottish Education and Industry Ministry, Scottish enterprise and Scottish Qualification Authority.

To make sure the sufficiency of quality assurance system standards must be monitored and evaluated. To achieve this in SQA a frame, which was composed of three components, was formed. These are; Quality Principles (6 units), Quality Elements (6 units) and Control of Quality. As a summary, the qualifications of SQA are flexible, sensitive, can be entered without prerequisite, and well-known nationally and internationally. The functions of SQA are curriculum preparation and development, evaluation, quality assurance and certification.

3. A SUGGESTED QUALITY SYSTEM IN VOCATIONAL EDUCATION FOR TÜRKİYE

In Türkiye, for international competition the importance of quality is being considered all the more and to develop our education institutions in terms of quality, new projects are produced and financed by external support. Moreover, to train qualified personnel, who are the most important factor for production, commerce and service sectors, a quality assurance system should be formed in our country. The quality assurance system should include all the components of vocational and technical education and the institutions which are concerned with Vo-tech education. In other words, there must be unity in this system. Besides related with the subject, it should include the organisations and the functions which have not been established yet in Türkiye up to now, and this quality system should be able to perform them. As it is understood from this statement immediately an autonomous institution should be formed called as "the Institution of Occupational Standarts and Quality". This institution whose financial needs were provided by the government at the beginning, must form a source to efford at least the half of its budget after completing the establishment and operational processing and the organisational structure. We call this offered institution as MESKUR and we are presenting its organisational structure and functions, not in details, as shown in the figure below.


MESKUR
General Assembly
Executive Committee
The Commission of Occupational Standarts
* : Definition of the Occupations
* : Degreeing
* : Definition of the Standarts
* : Accreditation
* : Path ways of progression
* : The relations between the school and the industry
The Quality Assurance Commission
* : Curriculum Development
* : Quality Assurance
- Approval
- Validation
- Verification
- Student Records
* : Evaluation
* : Certification

The representatives of Trade Union, Employers Union, The Turkish Trade Union of Chambers (TOBB), Universities, Higher Education Council, State Planning Organisation, the Ministry of Industry and Trade, the Ministry of Social Security and Work and the Ministry of National Education must be in the General Assembly. The Executive Committee which was elected by the general assembly, must be composed of 5 members who work full time. A secretarial unit must be established to implement the processings and the works and under the supervision of this unit.Sub-units must be formed to implement personel records finance and administrative and supportive services. The foundation and the duties of MESKUR and its relations with the other organizations and institutions must be arranged by law and regulations.

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TWO-YEAR COLLEGE & THE FOUNDATION OF İSTANBUL CHAMBER OF INDUSTRY COOPERATION FOR QUALITY ASSURANCE IN TECHNICAL VOCATIONAL EDUCATION AND TRAINING IN TÜRKİYE

by
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ABSTRACT

The aim of this article is to provide information, organisation, operation and developments of the co-operation protocol which was signed by YÖK (the Higher Education Council) and ISOV (the Foundation of İstanbul Chamber of Industry) on 28 February 1998. With this co-operation protocol, the co-operation between Two-Years College and ISOV was expected to be developed. Some very important developments have occurred despite only six months have passed since the protocol was signed, and these developments will continue. The studies about the development of the co-operation and the proposals to have an orderly structure for the co-operation will be presented in this article.

INTRODUCTION AND PURPOSE

To get an achievement in Vocational and Technical Education, the continuity of the co-operation between Two-year Colleges and Industry, and having a strong base for it are important. Türkiye has a population of 65 million and majority of its population is youngsters. Annual population increase is an average of 1.5 percent. The structure of Turkish educational system con be seen in figure 1, and the place of two-year colleges in university system can be seen in figure 2.

THE CURRENT VOCATIONAL AND TECHNICAL EDUCATION SYSTEM

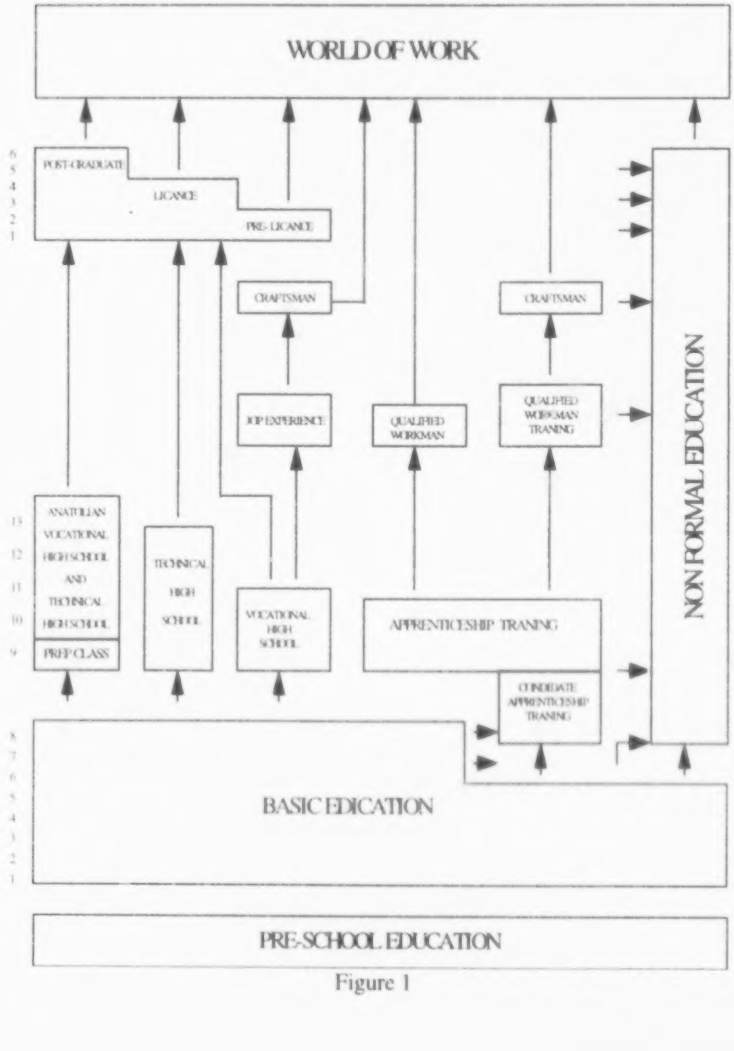

WORLD OF WORK
6
5
4
3
2
1
POST-GRADUATE
LICANCE
PRE-LICANCE
CRAFTSMAN
CRAFTSMAN
JOP EXPERIENCE
QUALIFIED WORKMAN
QUALIFIED WORKMAN TRANING
NON FORMAL EDUCATION
13
12
11
10
9
ANATOLIAN VOCATIONAL HIGH SCHOOL AND TECHNICAL HIGH SCHOOL
PREP CLASS
TECHNICAL HIGH SCHOOL
VOCATIONAL HIGH SCHOOL
APPRENTICESHIP TRANING
CONDIDATE APPRENTICESHIP TRANING
8
7
6
5
4
3
2
1
BASIC EDICATION
PRE-SCHOOL EDUCATION

Figure 1

Formal Education

Pre-school education, primary education, secondary education and higher education are included in formal education.

Pre-school Education: Pre-school education is for the education of children at the age of 4-5. The aims of pre-school education, which is optional, are to develop the physical, mental and emotional abilities of children; to help them acquire good habits; to prepare them for basic education and to help them improve their Turkish language skills.

Primary Education: Primary education consists of 5-year primary school and 3-year middle school for 6-14 aged children. Primary school is based on the National Education System. 8 years primary and secondary education is compulsory for Turkish citizens.

Secondary Education: Secondary education includes all types of the highschools which provide education and training for at least three years in academic, vocational and technical fields.

Higher Education: Higher education includes all educational programmes of at least two years and over. The aim of higher education is to offer education to individuals to meet the demands of the society at various higher levels and to develop scientific research for Turkiye to be a part of the developed countries, by preparing a suitable research environment. Higher education comprises universities, faculties, institutions, two-year Colleges and research center.

High school graduates have a central university entrance exam and according to the points they get from this examination, they are enrolled to a university unit (faculty or two-year college). About 550,000 students are graduated from the high schools every year and 262,360 of them will be placed in faculties or two-years college in 1998-1999.

To develop the Vocational and Technical Education (Formal and non-formal) in Türkiye, US$ 342 million were spent between 1984-1998. The money was used to buy machine, equipment; instructor training in Türkiye and abroad and consultancy. US$ 200 million of this funds were used to improve and develop 32 two-year colleges and 4 Technical and Vocational Education Faculties.

There are about 500 two-year colleges in Türkiye. 32 of them have world-standard workshops and laboratories. Except for some of them, the workshop and laboratory facilities, for an effective education and training are not sufficient for the rest.

GENERAL STRUCTURE OF HIGHER EDUCATION AND PLACEMENT OF TWO YEARS COLLEGE

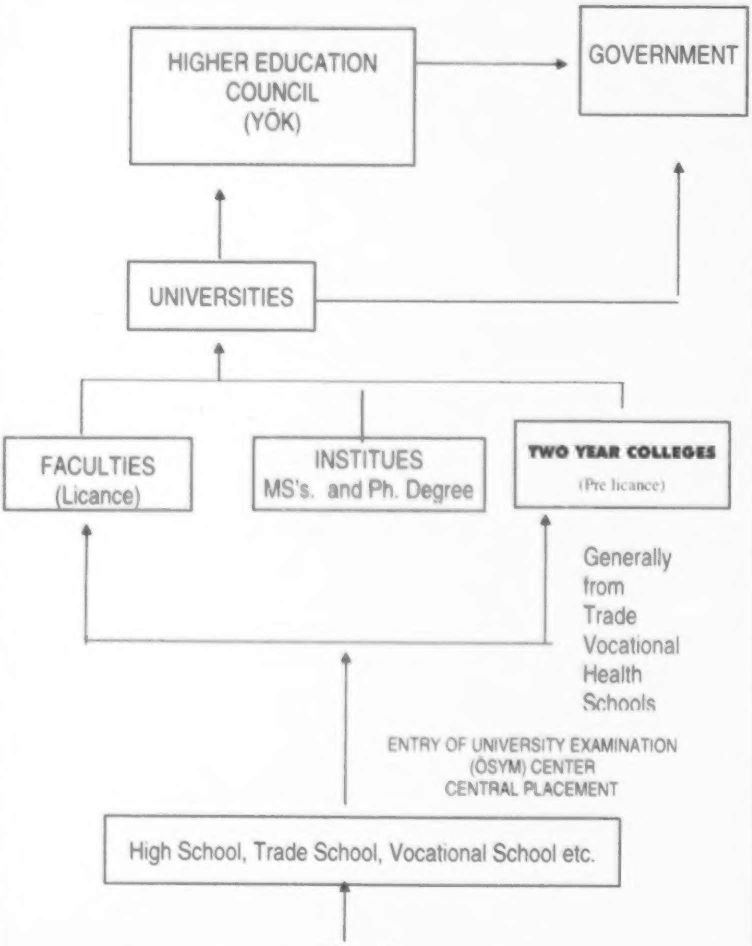

HIGHER EDUCATION COUNCIL (YÖK)
GOVERNMENT
UNIVERSITIES
FACULTIES (Licance)
INSTITUES MS's. and Ph. Degree
TWO YEAR COLLEGES (Pre licance)
Generally from Trade Vocational Health Schools
ENTRY OF UNIVERSITY EXAMINATION (ÖSYM) CENTER CENTRAL PLACEMENT
High School, Trade School, Vocational School etc.

Figure 2.

YÖK (HIGHER EDUCATION COUNCIL) – WORLD BANK INDUSTRIAL EDUCATION PROJECT

In 1984, a project funded by the World Bank under the direction of the Higher Education Council (YÖK) was established to develop Higher Technician training at 8 Two-Year Colleges (TYC) throughout Türkiye and further 22 TYCs and 4 Technical and Vocational Education Faculties were added in 1988. Curricula for 21 technical programmes were prepared and developed by Turkish, English and American specialists. Under the same project, workshop and laboratory equipments were provided to support these programmes. US$ 197.8 million dollars have been spent for this project. The project was completed on 30 May 1998.

STRUCTURE OF YÖK-ISOV CO-OPERATION FOR QUALITY ASSURANCE FOR TECHNICAL AND VOCATIONAL EDUCATION

The Studies About the Development of the Relations with the Industry and the Protocol of YÖK-ISOV

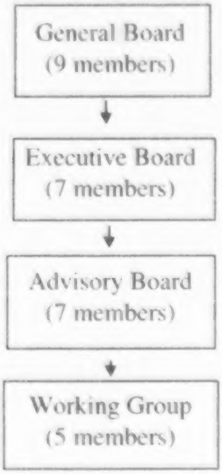
Development studies between Project Two-Year Colleges and Industry has been started with the agreement, which was signed by YÖK (Higher Education Council) and ISOV (Foundation of İstanbul Chamber of Industry) on 28 February 1997.

The infrastructure of this protocol was prepared very well and it needs time, funds and sincere working on it. The positive outcomes of this co-operation will be seen within the next years.

The Aim of the Protocol

To form the functional structure of Industry&Two-year colleges in training qualified higher technician for the planned economical development of the country.

THE STRUCTURE OF YÖK-ISOV COOPERATION


General Board
(9 members)
Executive Board
(7 members)
Advisory Board
(7 members)
Working Group
(5 members)

General Board: It consists of nine members; YÖK (1), ISOV (1), TOBB (Association of Industry and Commerce Chambers) (1), Labour Unions (2), The Ministry of Labour and Social Security (1), The Ministry of Industry and Commerce (1) and Two-year Colleges (2).

This board is directly responsible for the cooperation between Two-year colleges and Industry and it makes general planning and supervision.

Executive Board: It consists of seven members; YÖK (1), ISOV (1), Labour Unions (2), Central Government (1) and Two-year Colleges (2).

This board is responsible for application of the decisions which are made by the General Board.

Advisory Board: It is similar organization of Executive Board in city-level. The members of this board are elected as it is done for Executive Board.

This board applies the decisions, which are made by Executive Board, in the city-level.

Working Group: This groub applies the decisions, which are made by General Board, Executive Board and Advisory Board, on the level of programme (Mechanical engineering, civil engineering, electrical engineering, ... etc.).

Cooperation between Industry and Two-year Colleges has been tried to improve with this study. To form a similar structure to SQA (Scotland) and NCQV (U.K.) in Türkiye, is significant beginning of the studies. It has been thought that this structure will be improved later, especially as similar as SQA or NCQV.

PROPOSALS FOR THE SUCCESSFUL CO-OPERATION IN THE FUTURE

To make the co-operation successful depends on having the agreement and make the items of the agreement work. The required infrastructure for this has been formed. Now, it is necessary to make those items work.

Educated Staff And Equipment

There are two important centres of the project. One of them is the Head of YÖK-World Bank Industrial Education Project and the other is the Foundation of İstanbul Chamber of Industry. Both of these institutions need full time or part-time personnel to work in these project. Computer, printer, internet connection, printing centre etc have to be provided to these institutions and related other institutions. (Two- Year Colleges etc.)

Budget

A reliable resource has to be supplied to operate this project for buying equipments, (computer, printer, photo-copy machine, software, etc.) their maintenance and for communication, publication, meeting, transportation and staff expenses. Needed amount credit, should be provided from World Bank, European Education Fund or similar funds to be used especially for this subject. And the industrialists have to make a contribution to this fund.

Flexible and Rapid Communication Between Units

An internet or e-mail communication system have to be formed to have a rapid communication especially between ISOV and the Head of YÖK-

World Bank Industrial Education Project and Two-Year Colleges and Industrial Institutions.

Reorganisation of the Head of YÖK-World Bank Industrial Education Project

The official institution which has the responsibility of co-operation between the Project Two-Year Colleges is the Head of YÖK-World Bank Industrial Education Project. It is necessary to reorganise this unit for new developments.

Publication-Meeting-Mutual Visits

A International Journal related to Technical and Vocational Education and Training has to be published to inform the authorities of the co-operation protocol about the studies. A similar communication can be provided on internet. National and international congress and conferences and other developments the world have to be discussed. According to their outcomes, future studies have to be directed. Teaching staff should visit the industrial institutions and the representative of industry should visit two-year colleges. An international journal has to be published about vocational and technical education once or twice a year. This is an important opportunity to have an international knowledge. I hope IVETA (International Vocational Education and Training Association) Executive Committee Members can help about this matter. ISOV's Newsletter is performing the necessary duty about this subject.

Co-operation With Developed Countries

Our world is becoming global. Information can be sent easily to all countries. IVETA has members from different countries. An agreement can be made with IVETA or SQA (Scottish Qualification Authority) or another institutions to develop our technical and vocational education, especially about programme development, national and international accrediting, lifelong education, distance and open learning etc.

CONCLUSION

Türkiye is a country which has large number of young generation and developing very rapidly. Providing that Türkiye trains its young generation very well, it will be a developed country in the 21st century. There is an important place for TYC's to train this young generation. To solve mentioned problems above, Türkiye should have relationship with the countries which have more experiences than Turkiye and Turkish colleges have to have good relationship with developed colleges in Europe, U.S.A. and other countries.

TYC should give diploma and certificate over 20-30 thousand people by its 100-200 programmes. All TYC should have open education centre and continuously education centre. And there should be a centre to coordinate all the TYC's which controls the standard of education among TYC's and open new programmes as Turkish industry's need.

Turkiye continues to develop close and collaborative relationships among state and private business and industry organizations to assure value and relevancy in its manpower development efforts. Work is underway to ensure the compatibility of curricula used in non-formal education programmes with advancing technologies and industry needs. At the same time, the MONE is dedicated to revising its salary scale to attract qualified professionals. More important, the Republic of Turkiye is increasing its efforts to establish a sound economic base through development of its human resources in the MONE's projects. It should be very strong link between YÖK and MONE's technical and vocational projects.

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LESSONS FROM A PILOT ATTEMPT ON ACCREDITATION OF UNIVERSITIES IN TURKİYE: A CASE STUDY

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ABSTRACT

This paper deals with the situation of universities in relation to each other with and without institutional accreditations in Turkiye, by discussing some implications sought out after a pilot attempt in 1997. Discussion shows that institutional accreditation system needs further renderings. But in essence, has its own virtues which seems to resolve certain questions which are dealt in this paper. On the other hand, a different approach seems to satisfy weaknesses of what we may call as *process assessment*: *Product assessment*, namely vocational accreditation. The paper propounds that devising and utilizing a combined approach may be the most convenient solution.

1. INTRODUCTION

In 1997, a pilot attempt was performed by YOK to explore the situation of universities in relation to each other with and without institutional accreditations in Turkiye.. 13 universities with their 18 departments participated in the project. Assessments were made under two headings,: *teaching quality* (TQA) and *research quality* (RA), in which their methods and interdependency are still being largely disputed, introducing a dual concept. Speaking philosophically, duality is rather a strainuous state of existence, enduring until a surpassing is attained. In workshops and meetings it was discussed to a large extent that no consensus was reached on satisfactory use of these assessments even by the originators of the idea. During the following days, it was learned that HEFCE was

98

already transforming into some other identity. Whatever the reason is, this shows that institutional accreditation is prone to further renderings. But in essence, has its own virtues which seems to resolve certain questions that will be dealt in this paper.

2. NEED FOR MEASURING SYSTEMS

For long it has not been spelled by teaching institutions what their aims and objectives were, apart from functioning as they were intended to in widely global descriptions and definitions in terms of some general vocations like engineer, architect, economist, advocate etc. as written in their diplomas, and even leading to an ill oriented function: aiding graduates in giving military service as officers instead of being privates in the army. Of course it is not the case now, but one should admit that there are some traces left.

In the recent years, some attempts for devising a handy tool to adapt education in general, higher education and universities in particular to masses' and industry's, in short user's needs, gained popularity among the parties involved, that is to say, the society as a whole, with its individuals acting either as investors-private or state, students, teaching staff, parents, employers, workers and marketeers etc.

These are not the only parts to benefit from the use of such a tool. Higher organizations in charge of society's achievement and standards, and institutions such as universities themselves and other established means of education and various others benefits once accepting the challenge that is brought forward or propounded by accreditation and accrediting systems.

The most likely benefit that universities, which are scaled widely from internationally backed –up-most-developed to most modest and especially undermined ones, will extract from the system is, first of all, having proper co-ordinates to define oneself in, secondly verifying their own way, thirdly seeking self confidence in the arena of competence by achievements. The system really gives a go, or motivation more likely to say, to institutions which demand a higher attention than they attain in community's eye. Importance of this aspect could be debated of course in Turkey where higher education offer, regardless of any profession, is much smaller than its demand, seemingly annihilating it. There are more to add: nearly all universities are state invested and owned; furthermore, student placement is done by a central examination system, leaving less for institutional competition. But the case is not so, where, this time, a rumour-based-ranking is substituted somehow by some incomprehensible criteria in the community. Or more drastic of all, may be comprehensible, but somehow used to fit in prejudices. These aspects may be pumped up by competitors, who try and succeed to grab more from a predefined cake by lobbying, which often happens to be a small one. These are the drawbacks of universities that want to emphasize their real position, but unable to have the right tool to express, stuck in conventional media of thinking and discoursing. The consequences are, less understanding, less money, low profile intake, more hard work for efficiency.

3. AN EXAMPLE

Take for example two hypothetical universities A and B and compare them by some simple criteria without getting any further, as done in conventional reasonings:

Criteria Category	University A	University B	Ratios A vs B
Site area:	2 000 000 sm	500 000 sm	4 to 1
Covered facilities:	150 000 sm	50 000 sm	3 to 1
Student numbers:	20 000	15 000	4 to 3
Teaching staff:	1 500	750	2 to 1
Income per annum:	100 trillion	20 trillion	5 to 1
Research work p a	2 000	800.	2.5 to 1
Investment p student p a	5 billion	1.33 billion	3.8 to 1

If we lead our speculations further, putting the aims and objectives of both universities as *different*, if A obtains 90, and B obtains 70 out of 100 as ranking, how do we decide which one is more efficient?. There we need a further ratio between the rankings and investments Per student per annum to put a more just decision:

To equate and find two universities efficiency in relation to each other, first we have to find how much one point (1%) of rating costs per student for each university (Ca and Cb) which is:

Ca = 5 billion / 90 = 56 million (TL / student) for A.
Cb = 1.33 billion / 70 = 19 million (TL / student) for B.

Classical relative efficiency formula is:

Ea % = (Cb/Ca) x 100 for university A ,
Eb % = (Ca/Cb) x 100 for university B,

which yields efficiency approximately as 33% for A, and 300% for B, depending on the focus one chooses.

Is this a cruel judgement?. I do not believe so, epecially when we take into view the judgements that has been injected to the community as we mentioned earlier. Then, we may conclude that B has been more effective in *attaining its aim and objectives* when compared to its counterpart. Now, we come to the **most** crucial question: what if the rankings are in *favour* of B?. There should be an answer to give. Of course a cunning one may be " *Well, you have found the right mix, just keep on going.* ", which I am afraid, will be the most likely answer to hear.

Now, statistically, as you may observe from the table, odds are against B in all categories, naturally giving higher ranking in favour of A. If there is no accreditation, especially a numerical one, no explanation exists, you are bound up to rumours and as stated above, so-called *scientific evaluations* for reinforcing prejudices leading to falsifications.

It must be clear that we are not propounding that B is better than A in abstract manner, and B's graduates are better than A's, but they surely fit better to their definitions **given** the provisions. On the other hand, if aims and objectives of A and B may be opened to a closer examination it may be surprising, as in most cases, to find barely any difference among them. Because nowadays, the trend is that nearly all institutions claim to produce *graduates* as:

Problem-solving
Having command of professional knowledge
Self initiative, giving free decisions,
Communicable in all aspects and means,
Having certain practical knowledge,
Capable of working in all environment and conditions,
Possessing full knowledge and abilities on utilizing information technologies,
Open to teamwork,
Fulfilling leadership requirements
And in some cases, having certain command of a primary foreign language, etc.

The list goes on, revealing unconscious if not perversive, definitions of aims and objectives in many cases. The weakest point in institutional assessment is self manifestation ***of aims and objectives.***

Therefore we may state that institutional accreditation and accrediting systems, from universities' standpoint may bring sporting rules to an undefined game provided that proper approaches and arbiting is done; namely, where ethics is kept during and especially after assessments, where institutions will be liable to demand for their worth in various terms; but on the other hand, has some major setbacks.

4. AN ALTERNATIVE APPROACH

The pilot attempt revealed that institutional accreditation has an Achille' s toe in itself, since the ***main*** **aim of the education system should be generating products in compliance with industry's and/or employers needs. It was well understood that accreditation of institutions** ***may*** **guarantee the operation of institutions, however does not guarantee products** ***as a whole*****, because universities are on different grounds than productional media would require.**

Vocational accreditation is completely an other-end approach, in attempt of reading the product's quality, in other words individual's vocational compliance to enable recognizing its potential either nationally or internationally, depending upon the measuring body. The term "compliance" may cover any type of vocational activity provided that the definitions and levels are set –may even cover academics in the time to come -. The measuring system seemingly shows no concern with the process but the product, however yields a loop, a secondary educative mechanism in case of incompliances, which seems to stand as a wealthy resource for measuring, then educating bodies.

4. CONCLUSIONS

When explored, it is seen that systems are both competitive but maybe used as complementary, depending upon their utilizations; can and should exist once one is set up. Besides teaching quality assessment (TQA), *researcher assessment* versus research assessment (RA) is liable to be as effective, since *rules of promotion and appointment for academics* are being re-set as a scoring system nowadays by various institutions.

In brief, a set of statements may describe the phenomena to be taken into view by decision makers relevant to adoption of accreditation systems.

Taking from the beginning, first of all there is a *chaos or order decision* showing purposefullness of the involved. The systems

Are *sound tools for motivation.*
Provide *arena for competence.*
Provide *means for seeking self confidence.*
Provide *access to quality assurance.*
Are *perfect feedback mechanisms.*
Should be handled objectively, under justice.

The answer to the question "should they be kept *national or international*", may be found in the intentional context, in terms of intended degree of *globalization*, if any. When chosen, it is obvious that the latter case will turn to be a matter of *franchising.*

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TRENDS ON SECONDARY VOCATIONAL AND TECHNICAL EDUCATION

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ABSTRACT

Today, it is obvious that producing skilled work force is very essential for the rapid advances in technology and globalization of markets as the twenty-first century approaches. Although the task of raising qualified work-force is under the responsibility of Ministry of National Education, existing resources and researches bring into action two dimensioned instability, it means, there is much amount of unqualified manpower on one side and a need of qualified workforce on the other side. Furthermore, lack of coordination between education planning and labor market causes skill gap of the workforce. As a result of that, the current vocational and technical education and training system need to be reorganized for developing competitive and skilled workforce according to needs of labor market.

Rapid changes in the world and studies implemented by the Ministry of National Education have proved the importance of increasing quality in vocational education and reflected new trends and changes on education. The aim of this article is to focus on new trends and make recommendations on the secondary vocational and technical education.

1. Introduction

As the twenty-first century approaches, what lies ahead for the enterprise of vocational and technical education in this nation? As the profession moves from the known to the unknown, it is imperative that contemporary issues and trends be identified and analyzed with respect to their implications for developing new policies and improving the practice of vocational and technical education. Without a skilled, adaptable and knowledgeable workforce, neither industry nor government can work efficiently or productively. The schools are the central public institution for the development of human resources. Tomorrow's workforce is in today's classrooms: the skills that these students develop and the attitudes toward work that they acquire will help determine the performance of our business and the course of our society in the twenty-first century.

Although everyone who will be working in the year 2000 has already been born and the majority of current jobs will still exist, the multifaceted changes shaping society will also have important implications for the workforce. The projected changes likely to transform the workforce include the areas of (1) workforce composition, (2) the nature of jobs, and (3) the workplace. Economic and technical changes have eliminated some jobs, revised the nature of many others, and created new ones, which will require more adults to retrain for work in the next years. The continual shift will cause the skills of many workers to become obsolete.

Ministry of National Education (MONE) has a broad responsibility of raising qualified manpower by the studies and projects through the requirement of labor market. MONE has been continuing to search for educational models by the help of studies and projects such as School-Industry Training Project (OSANOR), METEP Project, Industrial Schools Project and National Education Development Project (METGE). In addition to these; Feasibility Studies in Secondary Education Development, which was processed under the contract of MONE and World Bank (BIRD), has completed its studies completing researches in six different scopes. The following researches are completed: Sector background analysis, surveys of labor market outcomes, enterprise skills profile, efficacy of training placement in enterprises, unit costs of secondary education, capacity utilization in vocational schools. Under the light of feasibility results, a project description have offered alternatives in secondary vocational education.

Alternative strategies which are being discussed and debated by vocational educators suggest a major commitment to reform. Many new reforms are being tried and tested and show a likelihood of continuing vocational education's role in preparing youth and adults for work. In line with the essentially economic role of vocational technical education (VOTEC), the economic changes have created a new imperative for VOTEC reform.

2. Organizational Flexibility

The political, economic, and social responsibilities of VOTEC within general education and among employment and training programs need to be emphasized at all levels. To be effective, however, central and local districts are to need to assume a more active role. Decentralization will allow less direct control from central leadership and provide local districts more autonomy in meeting local needs. School-level reform is also needed, but this is not enough. The focus is to have on the coordination and collaboration among the systems to reduce duplication and inefficient use of resources in order to enhance coordination between VOTEC.

At the systemic level, solutions to the VOTEC demand the cooperation of employers, firm-based trainers and other employees, education institutions, education departments and departments of labor.[1] Organisational flexibility, a feature of the education system as a whole and of VOTEC in particular, is an umbrella term referring to a set of instruments, regulatory and feedback mechanisms, capacities and effects. More open legislation gives schools greater autonomy in the way they perform their function. This is, in part, a result of a change in the government's policy instruments.[2]

3. Cooperation Between Business, Industry and Education

The critical needs identified by business and industry representatives included the following: (1) Basic skills and workforce literacy skills, (2) Planning, decision-making, critical-thinking, and problem solving skills, (3) Interpersonal communication skills, (4) Ethics, management and leadership skills, and quality techniques, (5) Skills in specific occupations (6) Computer training.[3] More far-reaching cooperation between VOTEC and industry is essential to the improvement of the quality of vocational education and training, and that it should include the in-service training of teachers, on the job training, and the curriculum content.[4] Adjusting to new challenges facing VOTEC may create the need to redefine traditional boundary lines between education and industry.

4. Coordination Between Formal Education Levels
VOTEC needs to improve the links between general and vocational schools, and among elementary, secondary and post-secondary levels of education could lead to a model of comprehensive, lifelong education. All schools and training programs should be systematically drawn into closer cooperation and interdependence.

5. Formal-Informal Integration and lifelong Learning
The training should enable trainees, as future skilled workers, to master a broad range of specific occupational tasks independently and give them a foundation for their own continuing training and for assuming new and changed occupational duties.[5] Wherever possible, short courses should be linked to formal award courses so that people who complete a short course are given full recognition if they wish to undertake a more formal program. Modular curriculum can assist this approach with one or more modules serving as a short course.[6]

6. Curriculum
If it is not inherently interesting, substantive, provocative, and relevant, effective learning will not occur. Today, there is common agreement that the mission of education is to provide students with the knowledge and skills required for "learning how to learn." This mission requires both a new content and a new process for education. Because content and process are interdependently woven together.[7]

A broad VOTEC is seen as appropriate to changes Jobs are steadily becoming more complex (through task integration) and are subject to dynamic processes of change. There is a growing need for workers who are flexible because they know how to learn. Broadening then implies extending the knowledge base and learning how to use that knowledge in different situations. This interpretation of broadening raises the question of the relationship with general education, and particularly the relationship between VOTEC.[8]

VOTEC should take a leadership role in the development and implementation of the integration of academic and vocational offerings. The opportunity and challenge for VOTEC is to show how learning can be utilized in the applied context of broad and specific job skills to enhance students academic skills, and motivate them to excel in both academic and vocational course work. Integration of academic and vocational curricula may also help to ensure access to quality education for all students.

Reforms within the VOTEC are important, since the skills demanded of all workers are now of a higher order than in the past. One aspect of these reforms is to strengthen the academic content on initial VOTEC[9] by allowing secondary schools to provide students with science, mathematics, and literacy-related courses, developing broad competencies and avoiding narrow job training, and leaving the technical and specified courses to the post-secondary level. In general, early specialization and narrow technical training are becoming less attractive options.

Academic, occupational, and employability skills is to link most effective in curricula.[10] The curriculum is to incorporate contextual learning, integration, seamless, design, skill standards, vertical-horizontal integration and program exit, reentry and advancement opportunities to effect change and improvement in occupational education. These curriculum will result in higher levels of student achievement; transportability of programs from one area of to another; an accelerated pace at which new curricula are developed, adapted, implemented, tested, and revised; and appropriate assessment strategies.[11]

Flexibility is a key element of curriculum design and modularization is seen as the basis for the flexibility. The curriculum should also provide the basis for an industry/community to go forward and not just contribute to what is current practice.[12]

7. Assessment

Assessment system must be planned and designed from the beginning, through implementation and continuation to complete certification and periodic review of the curriculum. To create effective assessment tasks, learning outcomes must first have been established for the curriculum. Then activities should be designed that allow students to show that they have achieved those outcomes.

8. Career Guidance

There is a need to assist students in making informed decisions as they select educational pathways by organizing the career guidance service.

9. Qualified Teachers and Administrators

For qualified teachers and administrators the following improvements are to made: (1) the pre-service training, (2) in-service training, (3) employment conditions, (4) the professional status, and, (5) the economic status.[13]

10. Conclusions

The quality of education has been measured by the preparation of job. Due to the emerging skill gap of the workforce, there is recognition that perhaps a better indicator of the our future economic and societal health is not the skills of the elite, but of the workforce as a whole. Therefore, the reform goals throughout the 2000s are likely to focus on improving education generally for all student.

VOTEC needs to continue to evolve if it is to play a critical role in developing the capabilities of our workforce. Programs cannot fulfill their potential if they remain static; as society and work change, VOTEC must respond. It is obvious that, these trends intend to assist Turkey to become an international competitor in world markets. VOTEC lies at the heart of the national effort to upgrade workforce skills and should play a key role in preparing highly skilled workers for the twenty-first century.

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THE IMPORTANCE OF THE INTERNET FOR EFFECTIVE DEVELOPMENT OF VOCATIONAL EDUCATION AND TRAINING

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Abstract

Vocational education and training (VET) is traditionally seen as a terminal education. As VET students become the workers of business and industry, they are taught only specific skills, but too often not the cognitive skills necessary for the rapid changes in modern work place. This tradition has, to a large degree, curtailed the understanding and use of the Internet (i.e., a modern information and communication technology) although it is essential for both academic education and training (AET) and VET. If we examine the US Secretary=s Commission on Achieving Necessary Skills (SCANS/2000), we see that two conditions arose in the last quarter of the 20th century: the globalization of commerce and industry and the explosive growth of technology on the job. This development is not being reflected in traditional VET. This paper posits that appropriate application of the Internet enables VET individuals to access contemporary sources of information (i.e., VET policies, training materials, projects, etc.) that can meet the authentic needs of students and develop the skills and competencies required in the 21st century work places.

Summary

This paper aims to describe the importance of the Internet as an effective means to develop vocational education and training (VET). The Internet is an effective means to develop various VET strategies in responding to the rapid changes taking place in the work place since. The Internet can provide tools for lifelong learning in VET that reflect the rapid change and demands of the work place. Therefore, this paper puts forward a thesis that VET should not be viewed as a terminal educational process. Like academic education and training (AET), VET should be seen as lifelong education and training that requires current information from multiple sources, many of which can be accessed through the Internet.

Too often, traditional VET beliefs and practices have victimized VET both by increasing the gap between VET and AET, and the design of VET curriculum that does not reflect the demands of work place. VET students are not trained, educated, or culturalized to think about, moreover to develop, the cognitive skills which are necessary for the rapid changes taking place in the modern work place.

Traditionally, VET participants are merely prepared to become the workers of who perform assigned and often repetitive tasks, rather than workers who can understand and think about what they do. Commonly VET participants are only taught rote skills needed for a specific job. Moreover, many educators, administrators, and the general public have directly or indirectly accepted VET as an area of education that does not require new information, knowledge, and creativity in developing new skills such as problem solving abilities. As a consequence, many VET students are only prepared to perform defined jobs with specific skills. The traditional VET culture has, to a large degree, curtailed the use and understanding of the Internet (i.e., a modern information and communication technology).

In the US, since the revisions of Perkins Vocational and Applied Technology Education Act Amendments of 1990, some states have begun to reform their VET programs. It is apparent that through these efforts, the Internet is becoming an increasingly important tool for effective VET development. This trend, due to certain economic, social, and cultural differences, is not appearing in VET in many other countries. This paper posits that appropriate application of the Internet is essential to modernize VET throughout the world.

With its multiple subsets (i.e., e-mail and WWW), uses and capacities, the Internet can be applied to achieve the VET goals (i.e., training specific skills and cognitive competencies) and to develop its programs. The potential of the Internet for optimum VET development is promising since the Internet provides access to information freely provided in global domain. The Internet can be used to examine the VET policies, projects, training materials, and other sources of solutions to VET throughout the world. This medium can inspire VET educators and administrators throughout the world to modernize their VET programs. VET educators and administrators can adopt, access, or adapt successful VET program information from other countries. Although there are certain cultural differences, many universal aspects of foreign VET programs can be used to develop or modernize a VET program in different countries.

Since information is the essence of the Internet, it is the primary reason why VET educators and administrators need to establish electronic networks. The Internet can be used to store, sort, and analyze information. This process can help free individuals from tedious, low-level tasks so that they can concentrate on higher order tasks. Higher order thinking is important and should be taken into account in all VET. Since the Internet is a promising educational tool that features connectedness and accessibility to information, it has the potential to move VET to once again become a fundamental agent for preparing individuals for the modern workplace.

VET needs to culturalize students to access relevant information so that they can function as the active agents in troubleshooting, suggesting innovations, problem solving, and making decisions. This is one reason why VET and AET need to be integrated as introduced in the revised version of the US Perkins Vocational and Applied Technology Education Act Amendments. VET must move away from a narrow, job specified, and rote skill-based training to preparing students for the modern work force. VET programs need to consider the importance of AET to provide students with a contemporary vision. Training students with a single-skill focus, as is the common practice of traditional VET, is simply not adequate for the 21st century work place. Future workers need both specific-technical skills and general knowledge skills. VET students need access to current information. The Internet can assist VET programs with meeting this need. The Internet can enrich and bridge the gaps which exist between traditional vocational and technical oriented skills and academic skills.

The need for skills to go beyond the traditional vocational and technical is further evidenced by the Secretary=s Commission on Achieving Necessary Skills (SCANS/2000), AWhat Work Requires of Schools@ by the US Department of Labor [http://infinitia.wpmc.jhu.edu/workreg.html]. SCANS shows that the globalization of commerce and industry and the explosive growth of technology in the work place are two significant conditions which have arose in the last quarter of the 20th century. In addition to these requirements, SCANS also shows that work involves a complex interplay among five work place competencies and three elements of a learning foundation. The five work place competencies include knowledge and uses of resources, interpersonal skills, acquiring information, systems (i.e., understanding complex interrelationships), and working with a variety of technology. The three elements of learning foundation include basic skills, thinking skills, and personal qualities. Many of these requirements are not being reflected in traditional VET.

Aware of the complexity of the current and future work place demands, VET needs to change. VET must be change to enable a philosophy and pedagogies where learning is take place through a continuous process regardless of place, time, and other traditional barriers. The Internet makes these goals achievable. It can create open classrooms by moving away from education and training that resembles early 20th century factories. The Internet is not only a transmitter of information, from a source to a destination. The Internet, with its various subsets, can provide VET with a process of dialoque and negotiation of meaning which can lead to the development of higher order skills. If the Internet is appropriately applied, VET may once again meet the authentic needs of students and develop the skills and competencies required in 21st century work place.

MESS EDUCATION FOUNDATION'S AGENDA AND VISION FOR YEAR 2000 IN TURKEY

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ABSTRACT

This paper first looks briefly at business, technology and training trends for the next decade in Turkey through the eyes of MESS (Turkish Employers' Association of Metal Industries) Education Foundation (MEF). Then, with the feedback of previous experiences, a new vision and agenda of the MEF for year 2000 are outlined. MEF has been recently re-organizing her organisational functions so as to provide high performance training in industry by improving workplace learning methodologies.

1. INTRODUCTION

Today, in most of the Turkish companies, learning is integrated into all key aspects of work: applying new technology, transforming the structure of the organisation, working in teams, meeting customer needs and making continuous improvements. With the increased emphasis on organisational learning, there has been a corresponding increase in industrial training activities. The importance of learning at different levels of the organisations is well understood. Most of the Turkish companies are creating new environments that promote individual learning. These fundamental changes can result in radical restructuring of the training activities of organisations in the near future. MESS Education Foundation hopes to use this positive environment to fulfill her goals.

MESS Education Foundation has been a major contributor to the growth of workplace learning in Turkey. Moreover, MEF has led business and government offices in understanding the competitive improvements in local and global markets through her action. MEF aims at providing new insights to organisational learning. For this reason, MEF has been recently re-organising its organisational functions so as to provide high performance training in industry by improving workplace learning methodologies. At the following sections, these new visions will be outlined briefly by the author.

1.1 ROLE OF THE MESS IN TURKEY

MESS, Turkish Employers Association of Metal Industries, is one of the most powerful and effective associations of Turkey. MESS was organised by the employers of metal industries to counterbalance the system of collective agreements, strikes, and lock outs which was being formed in 1959 when the labour unions were gaining strength. The basic goals of MESS are to unite the employers of the metal industries to protect the socio-economic rights, establish the duties and responsibilities, and maintain the socio-economic balance in employer-employee relations. MESS functions: to contribute to the development of Turkish economy by maintaining an socio-economic balance, to provide opportunities to develop relations, to improve cooperation and solidarity among the members.

1.2 MESS EDUCATION FOUNDATION (MEF)

MESS Education Foundation (MEF) was founded by the support of 37 MESS members and 49 other founders on February 5, 1986. MEF is a non-profit organisation. The main goals of the Foundation are; to increase the knowledge and skills of the human resources in Turkish companies, educating them towards higher management levels, training the students of the vocational schools and preparing them to work life. To accomplish these goals various tasks are carried out by the Foundation. These are outlined below;

- Organising and conducting conferences, seminars and workshops at training centres and workplaces,
- Providing consultancy on training and management areas,

- Training the trainers.
- Preparation of the training programs.
- Establishing industrial training centres at sites needed.
- Publishing books, brochures, bulletins and preparing videos, films and documents.
- Providing scholarships to the higher education students on need bases.
- Conducting research on educational subjects.
- Collaborating with national and international organisations.

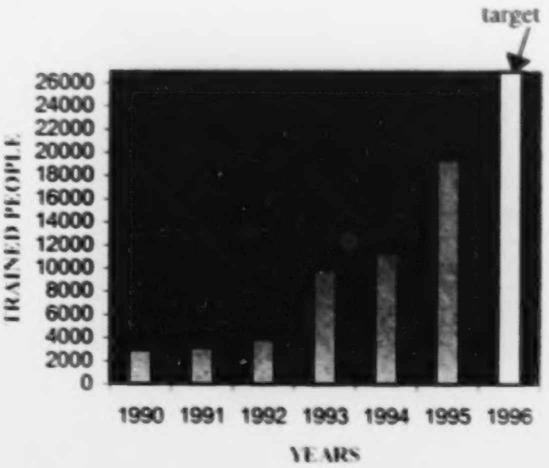

Figure 1. Number of people trained by MESS Education Foundation (1)

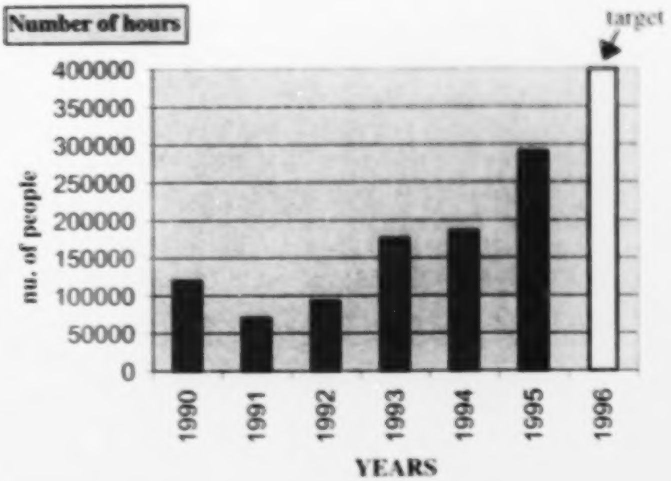

Figure 2. Number of training hours provided by MESS Education Foundation (1)

Figures 1 and 2 exhibit the training activities of the Foundation (1). Some of the training courses provided by the MEF are given below. MEF publishes and distributes the full list of the courses each year to industry. Moreover, specific course designs are always challenged and worked out between MEF and the company.

Executive Level Courses	**Middle Level courses**	**Lower Level Courses**	**Skill Development Courses**	**Computer and Information Technology**
-Total Quality Management -ISO9000 Courses -Leadership -Creativity -Improving Efficiency -Technology Management -...........	-Planning and Control -Human Relations -Quality Circles -Problem Solution Techniques -Statistical Process Control -Total Productive Maintenance	-Job Security -Team Development -Measurement and Calibration -First Aid techniques -Human-Work Relations -...........	- Welding Processes - Digital Electronics - Technical Drawing - PLC - Lathe Operations -...........	- Microsoft Office - Internet Use and Applications - Programming Languages - Office Networking -...........

2. AGENDA AND VISION FOR YEAR 2000

Today, MESS Education Foundation (MEF) has been concentrating on six key trends in education and training so as to develop her vision. These activities are listed below:

1. New roles for training activities in organisations,
2. Focus on high performance organisations,
3. New training technologies for workplace performance,
4. Management of individual and organisational change,
5. Developing alliances with other organisations,
6. Finding new financial supports for workplace training

The above issues form the full quality agenda of MEF. MEF has already initiated various activities in support of this agenda. Below the outline of these actions are given one by one.

- Creating and conducting training programs and consultancy so as to enhance the socio-economic development of the industry,
- Increasing the executive skills of the industrial managers,
- Developing tools to increase the knowledge, skill and behavioural standards of the workers,
- Helping to create highly qualified human resources to the industrial sector,
- Developing new effective training technology,
- To become the fast follower of the training technology as it is defined in (2), MEF hopes to become a leader by using the latest developments in computer and digital technology.
- As Turkey enters into Custom Union, which can be seen as the most important step towards full membership to European Union, MEF hopes to provide new training alternatives to Turkish companies,
- Training programs towards new technological areas so as to educate engineers, managers and employers in wide variety of subjects (R and D management, maintenance, optics, and technology management),
- Establishing training centres,
- Providing in house educations with high quality and reliability,
- MEF aims at creating customer portfolio so as to plan her managerial and technical training programs,

- Creating human resources pool to provide continuous education to industrial needs.
- Establishing methodologies so as to develop training programs to meet the real needs of corporate cultures,
- Providing consultancy to create job and task standards,
- Establishing MEF education network with the tools of Internet,
- Training the trainers of the Foundation,
- Evaluation of the training activities in agreement with the Kirpatrick 4 Level (3) activity.

III- CONCLUDING REMARKS

As a conclusion, the author wishes to reiterate the future vision of the Foundation with the help of the following two separate sections.

3.1 Reaching and Touching the Future Work Places With MEF

Year 2000 needs innovative companies, which hopes to research, develop, produce and manufacture future products of a competitive edge in the sector. In order to meet the demands of such companies, MEF is seeking new creative business plans. Such a business plan will likely to include the following steps:

Step 1. Establishing MEF - Company interface,
Step 2. Becoming a window for competitive technological training activities,
Step 3 Establishing longterm technical and managerial relationships,
Step 4 Utilizing the MEF Experience,
Step 5 Starting the action

3.2 Meeting with the MEF Experience

The first rule of a continuous training partnership with MEF requires the get togetherness of the corporate training specialists with MEF experts. MEF hopes to enhance such relationships by promoting corporate advisers among her experts. MEF experts play the key role in carrying the MEF experience to the companies. Two important tasks of the MEF experts are; the company visits that takes place in order to assess the education needs and the starting an education program to meet the demands.

MESS Education Foundation is now working on a new agenda to fulfil her responsibility to her members and the other industrial partners in Turkey.

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THE EVALUATION & SURVEY TO THE NEEDS OF PRACTICE FACILITIES REQUIRED BY INDUSTRIAL DEPARTMENTS FOR VOCATIONAL SCHOOLS IN TAIWAN

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ABSTRACT

The study mainly aims at: (1) Discuss the requiring index of practice facilities in senior high school, (2) Survey the basic facilities required by teaching practice in Industrial Vocational Schools, which will meet the developments of science and technology nowadays, (3) Survey the needs of teaching practice facilities in schools in accordance with Industrial Vocational new curriculum, (4) Set up the rules for the special case of subsidizing practice facilities in Industrial Vocational Schools.

According to the conclusion, the study combines practicing Industrial Vocational new curriculum and the needs of skillful labors required by enterprise, drawing up the funds subsidizing standard of teaching practice facilities in Industrial Vocational Schools in order to be consulted by Industrial Vocational Schools and the related government units, and putting forward the suggestions for subsidizing the practice facilities in the future and succeeding researchers.

Key Words: Practice Facilities, Demand Index, and Standard of Facilities.

Introduction

For the past fifty years, the industrial vocational education has laid a rather prominent foundation on the increase of quantity as well as the promotion of quality. It plays a supporting role not only in the demand of domestic development about economic construction, but also in the supply of labor resources with basic skills. Since 1980, advocated and organized effectively by Ministry of Education and Dept of Education, the technical education in senior high schools has gradually carried out the reformation plans from the first step to the third one. In addition, to implement the "five-year plan" and to improve the contemporary vocational education has been oriented. All these efforts have the effect on catching up with the demand of the industry, refreshing the industrial vocational education, and providing the technicians needed by the enterprise.

Following the tendency of skill-centered and capital-centered industry, the vocational education is expected to have more elevation and to extend a series of policies, such as "Unit Trade Training Courses," "Cooperative Vocational Education," "Improving Plans," "Competence-based Education," "Information Education," "Branches Education Courses," and "Automatic Education." After 1991 in order to meet the multiformity of social needs, the practice facilities in senior industrial schools mobilized positive measures toward the goal of integration, automation, and technology.

Our education, under the pressure of advanced technology and the sharp movement of industrial construction, can not afford the practice facilities to keep pace with the current trend and the curricular revision. What we need to contemplate and reshape includes the software and hardware in teaching practice. Such a significant development will be equal to the enterprise's needs for employment and the contemporary design for vocational industrial curriculum. In the past, the subsidy provided from our government toward the practice facilities in senior industrial education was in short of thorough programming within the right moment, means, and standard. By means of this study, the practice facilities in senior industrial education are anticipated to become more preferable for the present level. Moreover, the standards of subsidy from the government will be taken into consideration. This study is of great importance for our country to cultivate outstanding technicians contributing to economic construction.

Purposes of the study

This study will shed light on the following purposes:

1. To discuss the need index and basic teaching supplies for practice facilities in senior industrial schools.
2. To investigate the technological development at the present stage, and to cultivate the technical manpower needed by the enterprise.
3. To examine the demand of practice facilities at each school to coordinate the future revision of vocational school curriculum.
4. To propose the standard of subsidy from the government, as the basis of specific plan to afford the practice facilities for senior industrial schools.

Methods of the study

The present study was conducted through the following methods:

1. Literature review

The related information, including domestic / foreign thesis, research reports, journals, and volumes, were analyzed and concluded to discuss the present usage and reformed process of practice facilities in senior industrial schools. Furthermore, the influential reasons for the index on specific subsidy were reviewed. All of this literature has established the theoretical basis and research reference of this study.

2. Conference with experts

For the reformations plan, those administrators, professors and specialists who took part in policy-making, execution, and examination were invited to inspect and revise the "literature review, " "questionnaire," and "survey" of this study. Their opinions about the initial conclusions and suggestions recommended by this study were adopted.

3. Interview

The samples of this study consisted of: (1) Dept of Education, (2) the industrial education departments In three national normal universities, (3) industrial branches in senior high schools, (4) four enterprises of each industrial branch in Taiwan. These recruited samples had been interviewed and observed. Further advice supplied by education specialists, senior instructors, education administrators had focused on three aspects: (1) coordinating the educational goals, (2) reinforcing the teaching effect on practice, and (3) meeting the need of enterprise.

4. Questionnaire and survey

According to the literature review mentioned above, two questionnaires about the investigation of "facility requirement" and "need index" were compiled. These questionnaires were mailed to 58 schools in Taiwan to survey the practice facilities which need the urgent subsidy, and to get the opinions of "need index" from specialty teachers. As for the distribution of subsidy, these results had objective standard and suggestion with great contribution to this study.

Conclusions

The objective conclusions were drawn as follows:

1. About literature review

The Specific subsidy for the practice facilities in senior industrial schools originated from the assistance of America in 1952. At that time, according to the instruction of American specialists, the investigation and inquiry of industrial courses were held in Taiwan. The equipments of software and hardware for industrial schools were increased year by year. In addition, the "Unit Trade Training Courses" in American industrial schools were adopted to cultivate the specialized technicians required by the enterprise.

While the economic assistance from America had ended, the government applied for a loan from World Bank in 1964 to continue the supply of practice facilities in industrial schools. Such an education plan included the ways to develop industrial education, to increase the practice shops and equipment's, to revise the courses, and to reinforce the guidance of industrial education.

In 1978, our industrial construction had transferred from a manpower-centered industry one. In order to upgrade the industrial skills, and to promote the industry of information science for the current needs, the government took the following measures:

(1) In 1979, Executive Yuan allocated one billion and eight hundred million NT dollars to carry out "The Reformations Plan on Industrial Education" from 1979 to 1981. It was designed to enrich the mechanical and practice facilities in provincial industrial schools.
(2) In June, 1982, three billion and two hundred million NT dollars was spent to improve the equipment, courses, materials, teaching media, and teacher training of industrial education which was related to production techniques in industry.
(3) In February 1986, Ministry of Education complied with the order of Executive Yuan to expend about two billion and two hundred million NT dollars on "The Third Step of Reformations Plan in Industrial Education." The Goals included: a. the coordination of new curricula, b. the encouragement of cultivating teachers and in-service training, c. the experiment, research, and popularization of new curricula, d. the improvement of teaching materials and teaching methods, and e. the supply of practice shops and facilities in provincial or private industrial schools.

The industrial curriculum was revised in 1986. It was because the technology became more advanced, the industrial construction was transitional, and the enterprise styles had prompt transformation. To meet the realistic needs, a prudent improvement focused a spotlight on the instructors, teaching facilities, shop buildings, and administrative residence.

Recently, the industrial education has directed itself toward a miscellaneous and delicate way, which could follow the contemporary trend. Various reformation plans have been conducted: (1) the education of information science in industrial schools, (2) the reformation plan of industrial education for the natives, (3) the technical education of junior high schools, (4) the qualification examination of techniques at Level C for school students, and (5) the rotation of cooperative education classes. The software and hardware of practice facilities have been renewed and adjusted. All the measures mentioned above have led those students who have an interest in techniques to explore the field of technology education. None of the students would be rejected, and everyone could receive a proper instruction. These young men could apply their professional knowledge or skills to developing the economic construction for our country.

2. About interview

(1) The instruction of practice for students should correspond to the requirement for the enterprise.

(A) The students' techniques should be trained to become skillful.

(B) Half interviewees considered the students in industrial schools should pass the qualification examination of techniques at Level B or C.

(C) The wages paid by the factory for students graduating from industrial schools would be ranged from twenty thousand to thirty thirty thousand.

(2) What kinds of "technical competence" should be emphasized ungentle by industrial schools to meet the current needs?

Because the overwhelming age of information science is coming, computers have become the daily necessities. People from all walks of life regard computer operation as a basic skill. Therefore, the industrial schools should speed up the following preparations for students:

(A) The operation or program design about automatized/computerized machinery and instruments should be instructed.

(B) The related skills about the integration of technology, such as the integration between machinery and electrical engineering should be emphasized.

(C) The instruments, facilities, or machinery operated by the students should catch up with the contemporary enterprises, rather than just follow a traditional style.

(3) How could the industrial education develop a local characteristic, which combines with the requirement of local industry for employees?

The best way is to associate school education with local industry through studying camp and visiting to exchange their information. Furthermore, teachers and students could have a practice in industry during the summer vacation. The following steps should be took:

(A) Come to an agreement with the industry, which could provide their products or equipment's for school education.

(B) Encourage school instructors to study more advanced knowledge, especially the latest information science.

(C) Play a supporting role to follow the current and future trends in industry. Then, adjust the educational content at the right time.

(D) Judging from the entrepreneurs' standpoint, the industrial schools should purchase those practice facilities, which are equal to the need of regional industry. The cooperation between industry and schools will cultivate the manpower to have specialty and ability. Then, a "pre-occupation training" provided by the enterprise will be connected with the above instruction.

Most of the students employed by the enterprise have excellent performance and get promotion as managers. Accordingly, it is essential to cultivate students how to manage the business, to control the product quality, to respect their occupation, to have occupational morality, to notice the industrial safety and hygiene, and to lead the subordinates.

3. About questionnaire and survey

By means of the questionnaire conducted in the present study, the subjects' point of views about the index for the practice facilities in senior industrial schools are as follows:

"To reinforce the teaching effect of practice" is the most important factor which dominate the need index. Obviously, what is purchased for the practice facilities should immediately elevate teaching effects to train students' basic skills.

(1) In the aspect of "how to fulfill education goals", most teachers regard that the department of purchase should publish a new standard for educational equipments in order to come up with the draft of New Curricula in industrial schools. Besides, a promising and macroscopic view should be taken for the industrial vocational education in the future.

(2) As for the ways about "how to reinforce the teaching effect of practice," to "increase practice facilities" and to "emphasize group instruction" are the important methods. This tendency reveals that teachers have great intention to educate each student effectively.

(3) Owing to the development of technology and the multiformity of industrial styles, the enterprise inclines to employ those who have basic operating skill to handle the elementary work. Therefore, most teachers's express that those practice facilities equal to this disposition should be purchased at first.

4. About the survey of facility need

The result derived from the subjects' opinions has concluded that the application of subsidy from branches in industrial school totally is 2,719,640,700 NT dollars.

5. About the standard of supporting funds for practice facilities

The results of the former reformation plans (from the first step to the third one) on industrial education, as well as the investigation of some experts about the subsidy standard drafted by this study, have established some objective conclusions as follows:

(1) Subsidy standard

(A) **principle:** industrial subsidy for each school by years

This study found out the most effective way to manage the subsidy according to a distribution norm of each school. Which branch has urgent needs to develop itself should be supported at first.

(B) method:

(a) The subsidy for general schemes = (class numbers in each school)÷(total classes in industrial schools in Taiwan)×(total sum of annual subsidy)

(b) The extra subsidy for specific objects

(i) The schools with fewer industrial classes (below 20 classes) = (the subsidy for general schemes) × (weight value)

Classes Numbers	Weight Value
1~5	30%
6~10	20%
11~15	10%
16~20	5%

(ii) The subsidy for infrequent branches = (the class numbers of infrequent branches) ÷ (total classes of this school) × (the subsidy for general schemes of each school × 40%)

(iii) The subsidy for branches which reorganize themselves without any other specific subsidy

= (the class numbers of reorganized branches) ÷ (total classes of this school) × (the subsidy for general schemes of each school × 50%)

(C) Distribution model

Total subsidy for each school = (the subsidy for general schemes) + (the extra subsidy for specific objects)

(2) The characteristics of subsidy standards

(A) To have the equitable and reasonable distribution:

Before the subsidy standards were drafted, the researchers of this study took the opinions of schools and enterprises into consideration and also followed the instruction of experts and scholars. Thus, the distribution of supporting funds are equitable and proportionate which could obtain the approbation of all circles in the society. As to the subsidy standards for practice facilities, the general schemes are based on class numbers to support the funds. Furthermore, extra subsidy for specific objects had been emphasized, including the schools with fewer industrial classes below twenty ones, infrequent branches, and the reorganized branches. These additional supporting funds could solve the difficulties of management for these schools.

(B) To utilize the funds effectively:

A group that investigated and guided the practice facilities was formed to observe the actual situation in the industrial schools. By means of the need survey filled out by each schools, the researchers could find out the present improvement and effects of practice facilities. To examine the effects of performance and to revise the policy of subsidy could actually ameliorate the practice facilities. The enhancement of teaching qualities in practice will cultivate those technicians needed by our country during the period of economic construction.

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THE SKILL STANDARD DEVELOPMENT FOR THE QUALITY ASSURANCE OF THE OCCUPATIONAL COMPETENCY

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I. Introduction

The quality of human resources should also be controlled as like manufactured goods being based on the some evaluation criteria. Many countries keeps their own national level qualification system for the human resource development. The Republic of Korea has united under one system since last 1973. Even before 1973 the 10 government ministries had kept there own of certification rules.

Recently Korea is under progress to change the structure of the system basically according to industry change. U.S also is developing the skill standard lately.

The Korean qualification system has greatly contributed for the enhancement of the Korean skill level and development of the national economy in conclusion. However this has also been harmful element to make the school difficult to run regular curriculum.

This study aims to review the functions of national skill standard or qualification system and the new Korean qualification system, then to suggest to recommendations for the better system.

II. Literature review

"Ancient Egyptian artist, whose skills are best exemplified in sculpture, regarded himself essentially as a craftsman. Owing to his discipline and highly developed aesthetic sense, however, the products of his craft deserve to rank as art outstanding by any standards. Skill standard used as a movement or policies aimed at regulating the products, services, methods, and standards of manufacturers, sellers, and advertisers in the interests of the buyer. Such regulation may be institutional, statutory, or embodied in a voluntary code accepted by a particular industry, or it may result more indirectly from the influence of consumer"(Britannica CD Search 1997, file:///C:/EB/_0.htm)

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U.S "Goals 2000: Educate America Act" defined the skill standard as "a standard that specifies the level of knowledge and competency required to successfully perform work-related functions within an occupational cluster"(bmpcoe.org/nacfam/skilstd1, 1998). A skill might be understood as the competency to do the tasks successfully, it could be reversed into revenue and productivity(Tomlinson, 1985, Spenner, 1985).

Sometimes the term "skill" means just as manipulative dexterity narrowly but recently is broadly used to mean including planning skills and social skills.

But in Korea the qualification system structure divided into three main stream, skilled worker family, engineer family and private service worker family. However technician family has excluded until now since 1973.

The skill standard and related certification issued by qualification system may be used to inform decision-making in all sectors of economy; i.e industry, employer, labor union, worker, trainer and educators and government(National Skill Standard Board,1998, http://www.ttrc.doleta.gov/skillstd/ whatis). Departments of Labor and Education of the United States suggested some guiding principles of skill standard as follows; 1) responsive to rapidly changing work organizations, technologies and market structure and based on broadly defined occupational categories within industries, 2)benchmarked to world-class level of industry performance, 3) tied to measurable, competency-based outcomes that can be readily assessed, 4) useful for qualifying new hires and for continuously upgrading the skills of employees, and so on. They also suggested the proper implementing phases of skill standard as follows;1) development and solidification of the coalition of all industry partners- industry members, labor organizations, worker representatives, educators and governments into a project management structure,

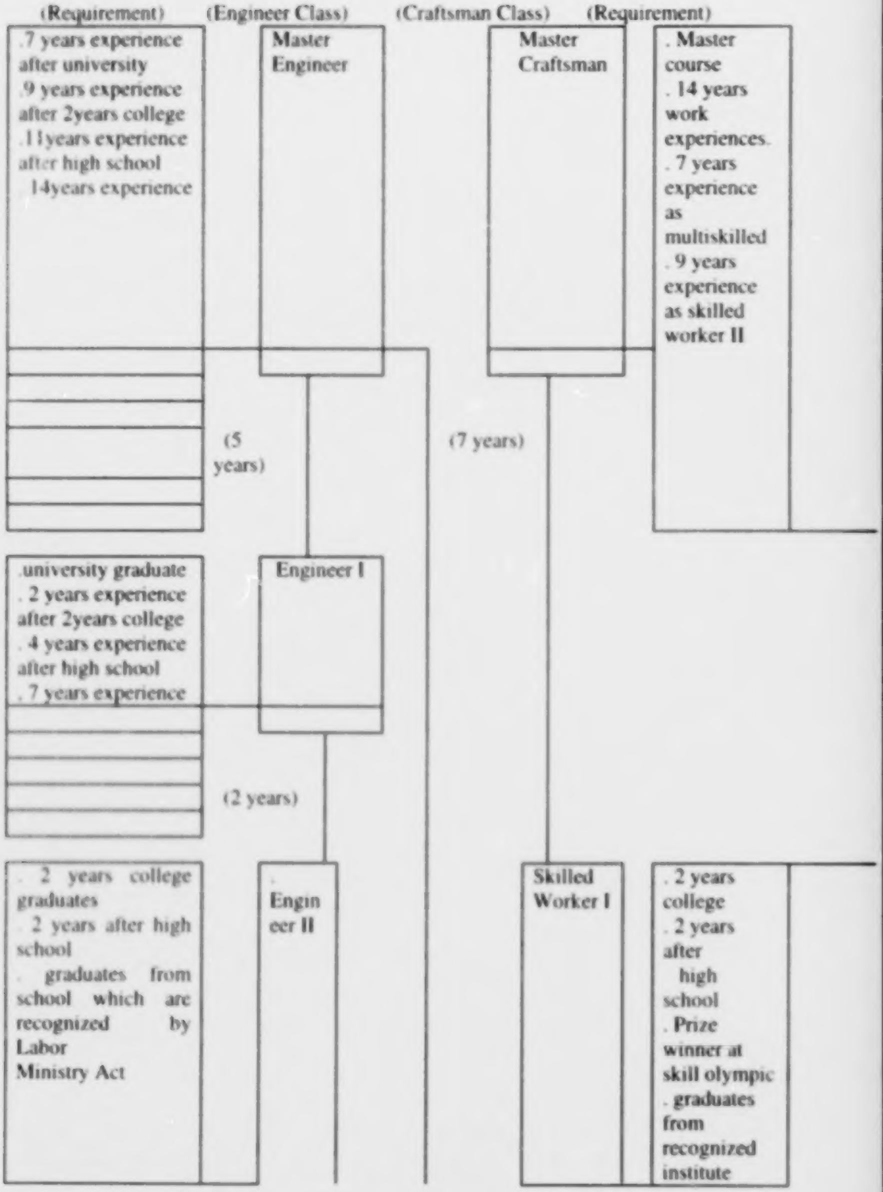
2) identification of broadly-based occupations within the industry for which standard generally do no apply at present, 3) development and validation of skill standard within the industry, 4) identification of appropriate training delivery mechanisms and processes for approving or accrediting appropriate training providers, 5) development and validation of methodology to assess, 6) establishment of implementation and marketing strategies((Department of Labour and Education, 1992, http://www.ttrc.doleta.gov/skillsta/guiding.html).

Kim Eu Kyung(1984,p8) identified the purposes of the skill qualification test system ;1) to give workers enhance his social status, improve his own occupational competencies and broaden job opportunities and promotions 2) to make industries increase the productivity using the competent manpower by various level 3) to make the labor market balance the demand and supply more flexible 4) enlighten the people to recognize the importance of skill and encourage them to train.

III. The Korean Technology Qualification System and its problems

1. The current Korean Technology Qualification System

The Korean Skill Qualification System had implemented by the National Technology Qualification Law which is enacted on the 31st of December, 1973. Up to that time the certificates had been controlled by many various government organizations. On the 31st of December in 1981 the Ministry of Labor hold the total control on the qualification assessment of whole trades and handed over the project to the Korean Industrial Manpower Management Agency. Thereafter the system had been revised seven times according to the technological and social changes. In addition to the system the government imposed the skill certificate holder to attend inservice training program generally every 5 years. This system is administrated under the Ministry of Labor, but the responsibility of the qualification test system is controlled by 17 governmental organizations. But the test itself is carried out under the control of the above mentioned Agency and the Korea Chamber of Commerce and Industry. The assessments on the skilled workers and engineers are done by the Agency and office workers related trades are done by the Chamber of Industry and Commerce.


(Requirement)
(Engineer Class)
(Craftsman Class)
(Requirement)
Master Engineer
Master Craftsman
(5 years)
(7 years)
Engineer I
(2 years)
Engin eer II
Skilled Worker I

.7 years experience after university
.9 years experience after 2years college
.11years experience after high school
. 14years experience

. Master course
. 14 years work experiences.
. 7 years experience as multiskilled
. 9 years experience as skilled worker II

.university graduate
. 2 years experience after 2years college
. 4 years experience after high school
. 7 years experience

. 2 years college graduates
. 2 years after high school
. graduates from school which are recognized by Labor Ministry Act

. 2 years college
. 2 years after high school
. Prize winner at skill olympic
. graduates from recognized institute

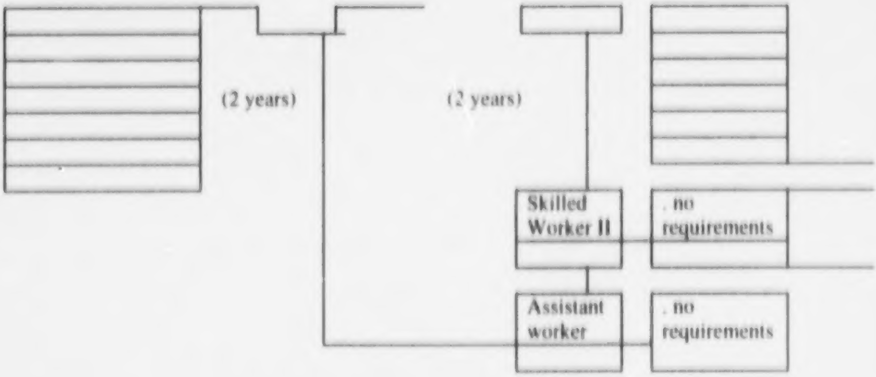


Fig. 1. The Korean Technology Qualification System and applicant's requirement.

In fact in addition to above two main stream there is technician stream, so called multiskilled engineer. This word is very unique one which is not used globally.

2. Distinctive features of the Korean Technology Qualification System and problems

2.1 The lack of industry and education cooperation

The Korean Technology Qualification System has been developed based on educational system generally, not on industrial needs. That is why the systems and requirements of applicants require the educational background. Such conditions inherited from the beginning of the system in 1973. Without sufficient consideration about basic scheme of national skill standard the authorities concerned built up the whole system like current system. In fact the Korean industry was very poor in 1970s. And then the main experts group who were involved in the development of the system came from the educational sector instead of industrial sector. Therefore the kinds of trades are almost same with the courses of schools and the test subjects are also very similar with the school curriculum. However the industries don't trust the competencies of qualification holder and complain on the test method because the level of the each class don't meet the necessity of industries. The fundamental gap was produced by lack of industry and education cooperation .It is prerequisite to meet industry needs that the result of occupational analysis must be reflected on the skill standard. The curriculum being developed for getting the insufficient qualification certificate is misleading the educational goals.

2.2 The balance between quantity and quality

Up to the end of 1997 the number of the qualification certificate holder reaches about 17,000,000 persons, every year approximately 26% of the applicants pass the test. In 1996 the 679,830 persons passed among the 2,604,683 applicants. There are a lot of holders who keeps several kinds of certificates not using within industry. It is very popular for Korean people to prepare the test.

<Table 1> The comparison of the current system and changing system

Current System		Changing System	
Grades	Number of Trades	Grades	Number of Trades
Master Engineer	96	Master Engineer	96
Master Craftsman	32	Master Craftsman	34
Engineer I	92	Engineer	97
Engineer II	87	Industrial Engineer	121
Multiskilled Engineer	19		
Skilled Worker I	71		
Skilled Worker II	130	Skilled Worker	207
Assistant Skilled Worker	108	(abolished)	-
Total	708	Total	555

The government had strongly recommended the company to give incentives for the certificate holders. In comparison with the population the number of qualification certificate holders is too much to handle the quality of those.And it is too difficult to test the competency of qualified worker exactly and comprehensively. This situation makes the industry not to treat as much as the worker expect. At present the government find the problem and will change the system in 1999 as shown Table 1.

2.3 The vertical system and horizontal concept

The Korean Technology Qualification System is characterized by vertical hierarchy, not by horizontal division according to occupational diversity. In addition to that they construct many ways to move the other stream. For instance, a lot of skilled workers don't satisfied with skilled worker job, but they try to move engineer stream through higher education system. They don't recognize the skilled worker job as a very important occupation. They might be encouraged to move to the professional job, however the majority of them had better keep their own occupation as mastered skilled workers.

Therefore the whole system had better to be reorganized based on horizontal division by occupation .

If the skill standard of each occupation could be suggested, the hierarchy of system is not so significant.

2.4 National control and private organization involvement

Up to now the Korean system had developed and implemented under the strong governmental leadership. However they hardly cover the whole trades properly. In particular the contents of each trades is continuously changing according to the technology innovation. How the relatively rigid governmental agency handle the more than 500 trades? It is also very inefficient to permit one non specialized organization keeps the whole nation's qualification system. It is quite necessary that most of trades are separately returned to the each related private or public responsible institutions. These institutions develop their own specialized qualification system . But there is one condition to be fulfilled , it is complete fairness.

IV. Conclusion

This study aims to study the current Korean Technology Qualification System. The researcher found the distinctive features and suggested some solutions through the literature review.

The Korean Technology Qualification had been developed based on educational background rather than industry needs. The governmental agency handle the mammoth system wholly. They had hardly improved each trades contents because of quantity. And the whole system is structured by hierarchy scheme, but by occupational diversity.

The researcher suggests that the government encourage the specialized institute involve the national qualification system. And the governmental committee for the development of skill standard by job analysis must coordinate the different institutes develop each occupation's competency criterion.

The Korean government must not hesitate to begin the project completely, newly and nation widely.

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QUALITY ASSURANCE ISSUES IN FLEXIBLE PROGRAMMING

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Abstract

Rapid technological development and the global economy are among the forces driving education and training programs to become more flexible and customer-centered. Systems, institutions, organizations, and individuals are adapting and moving ahead in new or different and creative ways, many of which challenge prior assumptions about respective roles and responsibilities. There is evidence of systemic change, and a growing reliance on partnerships. Innovative program design, delivery, and support provide new opportunities for outreach and service. As the momentum for alternative approaches swells, however, education and training providers must be alert to conditions which can affect the quality of the outcomes. This presentation will identify some of the developments underway, and discuss related quality issues and concerns. Suggestions on ways to address the issues will be included.

Introduction and Purpose

Concern for "quality" is a worldwide phenomenon, driven by competitive markets and by the growing sophistication of consumers who expect high performance at the lowest costs possible. Brand-name loyalties or reputations are built on direct experience, and also on the perception of the quality inherent in a particular product or service. Developing a sense of quality is difficult because it is associated with a variety of characteristics and meanings. In many contexts, however, quality is linked to accountability and reliability of a product, service, or provider.

Like other enterprises, vocational education and training is impacted by the concern for quality, and the degree to which quality can be assured is a credibility factor. Vocational education and training programs are expected to achieve results, to guarantee performance, and to keep abreast of occupational needs. Over the years, providers have been creative and resourceful in addressing these responsibilities, and the accomplishments of the workforce in countries throughout the world attest to the effectiveness of their efforts. Strong vocational education and training programs have been critical resources for development initiatives.

However, as the escalating need to participate in the global marketplace drives changes in people's work--and their work situations--education and training providers are being challenged to be even more inventive and entrepreneurial. Program design and delivery are becoming much more flexible and customer-centered. This is a healthy development, but it brings with it new challenges and adjustments. In particular, quality assurance is complicated by increasingly fast-paced technological development and by the turmoil that results when systems or organizations change. Both conditions disrupt the predictability and stability necessary to provide assurances.

Emerging Flexibility

Emerging flexibility in the provision of higher education is having a number of interesting effects that could be important to vocational education and training. In many respects, the demand for more responsive education is challenging our thinking about structure and mission, partnerships, program design and content, and program delivery and support. The following points illustrate some of the developments underway in the United States' public higher education sector:

- Systemic Change. Many "formal" educational systems are faced with an increasing need to make program changes more quickly and efficiently than was done in the past. As a result, a major shift in responsibilities is underway whereby centralized, system-based, processes of program development and approval are giving way to more decentralized, eclectic approaches that give more latitude to institutions but which also hold them accountable. One example of systemic change from the United States is that of the Minnesota State Colleges and Universities (MnSCU). MnSCU is a recently (1995) merged system of state universities, technical colleges, and community colleges which includes 36 institutions and approximately 145,000 students. The system is governed by one Board of Trustees, rather than three governing boards as in pre-merger. Each of the former systems had a distinctive approach to centralization or decentralization. Under the merger, there has been considerable decentralization. The system is learning through experience which functions need to be centralized and which do not.

- Partnerships. There is a growing reliance on partnerships as a means of providing viable education and training programs. Partnerships have opened the door to new ideas, new resources, and new ventures. They are especially important when attempting to address the complexities of meeting workforce needs within a global economy. Partnerships are based on shared interests and political realities, and they encompass a full range of goals and efforts. Increasingly, partnerships are multidimensional and generally ongoing, although they may experience periods of time when they are "recessed." Arrangements between partners may be formal or informal, depending on the nature of the interest. One example of partnership development from the United States is that fostered by "School to Work" legislation. This broadly-focused federal initiative aims to build seamless linkages between all levels of education and work by encouraging partnerships with business, industry, community organizations, government agencies, and other entities. It is conceptualized as a "life-long learning" program that can be adapted to meet individual and workforce needs over a long period of time. Integrated within its scope are more specifically-structured programs such as "tech prep" and "service learning."

- Program Design and Content. The area of program design shows the creativity and resourcefulness of those concerned with serving changing workforce needs. Increasingly, programs are being designed that build employability skills and familiarity with work and the work environment. These programs often involve multiple partners in collaborative or cooperative arrangements that link resources and build opportunities. Many programs are customized with respect to content and delivery. New or different program awards are being offered, and more attention is being focused on the length of programs. Infor- mation technology is stimulating new ideas about what can and should be done. Again, an example from the MnSCU system related to program design and content is that curriculum planners are able to redesign most programs relatively quickly. Institutions already approved for a basic program can add an emphasis or option to an existing award with a minimum of approval processes involved. Colleges and universities within the system provide a range of awards (including certificates, diplomas, and associate, baccalaureate, or master's degrees), and new awards in a programmatic area also can be added quite easily if the institution already has been approved for one award. In addition, Customized training/continuing education offers the most flexible type of program design, and it is becoming an increasingly popular option for business and industry. In 1996, one year after merger, the MnSCU system served about 2700 firms; more than 95,000 persons received training offered primarily by technical and community colleges.

Program Delivery and Support. Education and training providers recognize the importance of being able to "be where the student/client is," and delivery systems have been established accordingly. On site/flextime instruction is used in both customized training/continuing education and "regular" programs. The potential of telecommunications technology, the Internet, and computer-based instruction is being explored and accepted by more instructors and institutions. The provision of supplemental services is seen as an important component of success for many students.

One Minnesota development related to program delivery and support now underway is the creation of a "virtual university" called "MnVU." This collaboration between the MnSCU

> institutions and the University of Minnesota will expedite application and registration processes for potential students as well as promote other distance delivery opportunities. Course catalogs of participating institutions are expected to be available on-line by the end of the year. It is anticipated that this will spur interest in collaborative programming that involves transferring courses among various institutions. Eventually, it could provide opportunities for student enrollment from sites around the world.

Looking at the emergence of flexibility through these examples provides only a glimpse of the complex transitions underway. In many situations, the momentum of change is so unrelenting that new approaches can barely be tested before another generation of innovation is on the scene. The adage that "change is the only constant" reflects the context that planners must consider when developing education and training programs. It is a exciting, challenging situation in many respects, for new developments are always on the horizon. New ideas, new assumptions, new expectations, and new freedoms are an integral part. Nonetheless, the demand for flexibility is also unsettling because, as it becomes the norm, our "rootedness" or "centeredness" is difficult to maintain. Under these conditions, assurance of quality becomes problematic.

Potential Effects on Quality

Positive Dimensions: Flexibility has become a critical operational characteristic in education and training programs for several reasons. First, programs that have not kept pace with occupational and societal change cannot be optimally effective, and in our cost-conscious milieu that means they are not efficient, either. Policy makers responding to their constituencies have become impatient with institutions' reluctance to change the historic processes that have been gatekeepers for innovation in education and training. Consequently, changes that promote flexibility have often been legislated. Second, the burgeoning development of technology--particularly information technology--has created conditions that are especially conducive to innovation. It is a situation where form has influenced function, and as new capacity has evolved and more individuals have become more computer literate, receptivity to having and using technological resources has increased. Third, greater interest in developing partnerships and working collaboratively or cooperatively has meant that there must be more willingness to modify strategies and models. Positive aspects of flexibility that contribute to quality of education and training programs include the following:

- Greater responsiveness to policy makers, customers/clients, and students.
- Increased capacity for creativity, innovation and experimentation.
- Growing integration with other systems and sectors because of more partnerships.
- Development of entrepreneurial spirit and strategic orientation.
- Greater potential for increasing access to underserved populations.

Adverse Dimensions: The very aspects of flexibility that generate excitement also have the potential to affect the quality of vocational education and training programs adversely. First, responsiveness without thoughtfulness can result in the creation of approaches that are inefficient at best and disastrous at worst. Second, striving for flexibility without due consideration for quality safeguards such as standards--or adapting standards that have lesser expectations--can reduce the effectiveness of the program and also raise ethical and legal questions for the provider. Third, flexibility may have unintended effects that impact on other systems, e.g., changes in program design specifications may make instructor licensure requirements inappropriate. Fourth, bringing new partners with different agendas into the picture may affect accreditation status. Finally, flexibility increases the chances that certain constituencies may be overlooked because there may be fewer routinized processes. Adverse aspects of flexibility that affect the quality of education and training programs include the following:

- Greater variability introduces more possibility for error and less predictability.
- Achievement of standards can be affected, or existing standards may be inappropriate.
- Unintended effects on other programs, services, or constituencies.

- Incremental shifts of operations can divert resources away from mission or purpose.
- Cynicism and apathy result if expectations are repeatedly raised but not achieved.

Preserving Flexibility, Protecting Quality

What can be done to reconcile parallel interests in flexibility and quality? Perhaps just creating the awareness that attention must be paid to both is a first step toward reconciliation. After all, flexibility may be a dimension of quality, if substantive improvement is the aim. However, this cannot be assumed, regardless if the change involves a system, organization, institution, program, or service. It is important to connect with those involved in or affected by the change so that any advantages or disadvantages can be made clear; communications should also portray realistic assessments of the time, costs, and commitment needed to "make it happen" so that those involved do not become disillusioned if effects are not immediately evident. The aim should be for substantive progress. In addition, understanding the messages conveyed by the establishment of any partnerships will help keep flexibility and quality issues in perspective. With flexibility as a characteristic, reliability of performance over time will impact quality. Commitment to needs assessment and evaluation of effectiveness are processes that contribute.

STANDARDS OF QUALITY FOR THE PREPARATION AND CERTIFICATION OF TRADE AND INDUSTRIAL EDUCATION TEACHERS

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Abstract

This paper reports on the background, rationale, and development of standards to prepare teachers of trade and industrial education subjects in America's high schools. The goal of education for the preparation of teachers is to develop individuals who are competent to facilitate learning within the context of an economic, societal, political, and global marketplace. Competent teachers know the content for their subjects, understand the cognitive orientations of their students and accept individual differences, develop or choose appropriate instructional materials and teaching strategies, use effective evaluation techniques, and understand the social context in which program graduates will work. Historically, trade and industrial education teachers have come directly from industry into the classroom with little or no preparation in pedagogy. The rationale for developing standards of quality was based on the need to develop and enhance the pedagogical skills of trade and industrial education teachers.

The paper covers critical areas of concern in the preparation of teachers. Standards of quality are presented for each area of concern,

along with the rationale for each standard. Standards included in this paper should benefit teacher educators who want to improve their trade and industrial teacher preparation programs. The standards could serve as guidelines for the approval of teacher preparation programs. Also, the standards could be a valuable resource for central office personnel or agencies who are responsible for the program review and accreditation process. The standards presented in this paper represent the recommendations of the National Association of Industrial and Technical Teacher Educators (NAITTE) for developing well-qualified teachers to prepare youth and adults for productive lives as members of a global workforce. The presenter is one of seven individuals appointed by NAITTE to study the implementation of these standards.

Introduction

Research on teaching and learning suggests that more, not less pedagogy is becoming increasingly important for the preparation of teachers. For example, trade and industrial education teachers need to be prepared to teach heuristic strategies, cognitive skills, and personal and social skills as well as occupational skills to prepare students for today's job market.

Given a variety of educational settings in which teachers of trade and industrial education subjects may be employed, labor market needs, the availability of resources, and diversity of student populations, efforts were made to develop standards that are specific enough to be meaningful and useful, but not so narrow as to limit adaptation of practice. The standards would provide a starting point from which teacher educators can fashion and model their own programs within the context of specific needs. In other words, the position of the National Association of Industrial and Technical Teacher Educators (NAITTE) is that teachers and communities have a right to influence policy and practice to fit their individual needs.

Purpose

The purpose of the Standards of Quality for the Preparation and Certification of Trade and Industrial Education Teachers is to improve student performance and enhance student outcomes through the preparation and certification of well-qualified teachers. The standards provide indicators of quality for the improvement of trade and industrial education teacher preparation programs and certification. The standards provide guidelines to improve teaching and learning around which instruction could be designed to specify the knowledge, skills, attitudes, and behaviors that students should have to succeed in the workplace. The standards serve as a frame of reference to develop instructional programs that prepare future teachers who are able to (1) identify and articulate the goals and objectives of their occupational programs, (2) choose appropriate instructional materials and strategies, (3) know the content to be taught, (4) understand social experiences and cognitive orientations of students, (5) demonstrate good judgement, and (6) make sound decisions. The intent of the standards is to promote excellence in the preparation and certification of trade and industrial education teachers by providing guidelines to assist teacher educators and others involved in the preparation of teachers to better understand and implement effective teaching and learning practices.

Significance

Advancing technology, a diverse workforce and workplace, global competition, and increased demands for productivity in the United States continually challenge America's schools to prepare all students to secure, maintain, and advance in high skill, high wage jobs, or to pursue further education. Most professional educators agree that the performance of American students will not likely improve if the quality of teaching in America's schools does not improve. The quality of teaching will not likely improve without significant improvements in teacher education. The standards would serve as a point of reference for credibility and prominence for the profession. The standards provide benchmarks that are important to curriculum planning, development, implementation, revision, and evaluation.

Conceptual/Philosophical/Practical Basis

Conceptually, the standards are grounded in philosophical beliefs that teachers of trade and industrial education subjects should be prepared as professional educators who are competent in the following areas: (1) instructional methods and techniques, (2) curriculum development processes, (3) teaching diverse populations, (4) organizing and managing classrooms and laboratories, and (5) representing the profession in a positive manner. Instructional practices should include integrating academic skills into vocational education, using more technology in teaching and introducing students to technology in the workplace, utilizing problem solving and decision making skills and emphasizing team work to better prepare students to enter the work force or to continue their education. The appropriate system for preparing teachers to provide such instruction is to include this type of instruction in teacher preparation programs.

The hope of the National Association of Industrial and Technical Teacher Educators (NAITTE) is that the standards will be used to revitalize trade and industrial education teachers and teacher educators and to upgrade and update teacher education programs. It was apparent to the NAITTE leadership that standards originating from interest, support, and commitment within the profession, rather than from outside pressures, would be more acceptable to teachers and to teacher educators.

Methods and Procedures

The Standards Project originated in 1993 at the annual meeting of NAITTE during the American Vocational Association Conference in Nashville, Tennessee. During this meeting, a special forum to discuss emerging trends and issues related to teacher preparation, education, and work was held. Teacher educators representing technology education, technical education, and trade and industrial education served on the panel. The recommendation was made to develop a set of standards for the preparation and certification of teachers of trade and industrial education subjects. It was agreed that the standards should represent national ideals, and they should include requirements for professional and technical competence for teachers.

In 1994 a committee of industrial teacher educators from major universities began developing the standards. The committee reviewed and discussed existing standards for teacher preparation programs. Then, a draft set of standards was prepared and reviewed by other teacher educators, state and local supervisors of trade and industrial education programs, trade and industrial education teachers, state directors of vocational education, and researchers at an open public forum during the American Vocational Association Conference in 1994 and the Trade and Industrial Education Conference in the Eastern region of the United States in 1995. Small group sessions were held to discuss each of the proposed standards. The standards were revised based on recommendations from forum participants. The revised standards were mailed to members of relevant national organizations such as the National Association of State Directors of Vocational Education, the National Association of State Supervisors of Trade and Industrial Education, the Trade and Industrial Education Division of the American Vocational Association, and the Vocational Industrial Clubs of America. Based on the input of members of national organizations, the standards underwent another revision before being distributed to the NAITTE membership in the Fall of 1995 with a request for suggestions for improvements. The final copy of the standards incorporated NAITTE membership suggestions for improvements. The NAITTE membership voted unanimously to adopt the standards at its annual business meeting in 1995.

Organization of the Standards

The standards are organized around the following six key conceptual areas deemed necessary for the preparation and certification of well-qualified teachers of trade and industrial education subjects.

1. The General Standard addresses the general professional and technical skills and knowledge required to teach an occupational area of specialization.
2. The Instruction Standard addresses providing opportunities for all students to observe, participate in, create, and experience meaningful learning.
3. The Curriculum Standard addresses the capability to develop a meaningful and relevant course of study.
4. The Teaching Special Populations of Students Standard addresses the knowledge and skills to adapt instructional strategies and assessment procedures to serve students with special education needs.

5. The Laboratory Organization and Management Standard addresses competencies to organize and manage laboratories to insure an occupationally relevant and safe learning environment.
6. The Professionalism and Public Image Standard addresses a systematic professional development program to enhance and maintain the professional competence of teachers so that they will project a positive image to their school and community.

Each of the standards is followed by a rationale and indicators of competence that should be demonstrated by teachers.

The next part of the project is to implement the standards. A new committee representing different geographical areas and types of 4-year teacher preparation programs was formed to examine policies and practices that may impede or enhance the adoption of the standards within the states and various teacher education institutions. Also, the committee was charged with the responsibility to develop explanatory materials and a dissemination process for the standards.

To date, the committee has interviewed key individuals such as state directors of vocational education, teacher educators, and chief teacher certification officers in seven states. Individuals interviewed were located in the Northern, Southern, Eastern, and Western regions of the United States. An interview protocol was developed to assure consistency in the interview process. The interview protocol included preliminary questions about the participant's background (position title, education background, years of experience in trade and industrial education), the philosophical orientation of the existing trade and industrial teacher preparation or certification program (work and education requirements to teach trade and industrial education subjects, locus of preparation: university? school district? pre or inservice preparation requirements), and the operation of the existing trade and industrial teacher preparation or certification program (levels of certification, state versus local control, funding, comparability of trade and industrial teacher certification requirements to conventional teacher education models).

The thrust of the interviews focused on the following areas: (1) participant's sense of importance of the concepts and beliefs undergirding the standards, (2) existing educational policies and practices that support implementation of the concepts undergirding the standards, (3) existing policies and practices that may impede implementation of the concepts undergirding the standards, (4) new education policies and practices needed to support implementation of the standards, and (5) resources needed to assist in implementation of the standards. Each person interviewed was given an opportunity to make additional comments. A copy of the standards and related information were mailed to participants before the interviews were conducted. Some interviews were conducted in person; others were conducted over the telephone.

Conclusions

An analysis of the data collected thus far suggests that all of the individuals interviewed were receptive to and supportive of the concepts undergirding the standards. However, many concerns were focused on ways in which the standards could be implemented. For example, most people interviewed agreed that a move toward requiring the Bachelor's degree was important. However, it could take years to earn a Bachelor's degree. Currently, only 12 of the 50 states require a Bachelor's degree for teachers of trade and industrial education subjects. In addition, in some states there is little monetary incentive to earn a degree since trade and industrial education teachers can receive Master's level pay after the completion of college work that is less than that required for a Bachelor's degree. Some of the participants felt that existing policies emphasize credentials rather than performance.

Professional development for either college or noncollege credit in the form of courses or workshops for new teachers was required by many of the states as either a pre-employment requirement or first-year of teaching requirement.

It was difficult to draw valid conclusions about work experience requirements because of differences in requirements among the states. Generally, it appeared that work experience requirements were decreasing; the more education one had, the less work experience was required.

Almost everyone expressed concern related to the lack of human and nonhuman resources and sometimes lack of interest of other education officials within states or teacher education institutions in implementing the standards.

In summary, the concepts presented in the standards have been well received although implementation proceeds slowly. Since there is no national mandate for implementation, there will be differences among the states in terms of the rate as well as the extent of implementation. The current phase of the project is to continue to explore possibilities for the implementation of the standards.

One concern that undergirded the initiative to develop and implement standards was the fear that without standards, beginning teachers may be held responsible for weaknesses in their programs when, in fact the weaknesses may have been in the teacher education programs in which they were prepared.

THE SCOTTISH QUALITY MANAGEMENT SYSTEM - A WAY THROUGH THE QUALITY JUNGLE

Dennis Gunning

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Summary

SQMS has succeeded in achieving its original aim of relieving the duplication of effort and waste of resources being experienced by vocational education and training organisations in Scotland. At the same time, SQMS has set a high quality threshold for these organisations – justifiably-high since they are receivers of considerable amounts of government training funding.

A further success, through the development and implementation of a national approach to SQMS auditing of education and training organisations, has been national consistency - and hence improved uniformity of quality of such organisations.

Introduction

The aim of this paper is to present a summary of a recent development in Scotland in the field of quality in vocational education and training (VET). The quality system to emerge from this development is known as the Scottish Quality Management System (SQMS).

Background - the need for quality systems for VET

Scotland occupies the most northerly part of the United Kingdom. It has a different education system from the rest of the United Kingdom - a system with distinctive traditions and values. Scotland has a population of just over 5 million, the majority of which live in the central part of the country. From 1999, responsibility for education and training will rest with the new

Scottish Parliament; this is being set up as part of the present government's policy of devolution.

Traditionally, Scotland's employment was divided between the rural economies such as agriculture and fishing and the heavy industry such as engineering, steel and shipbuilding in the central part of the country. Coal was extensively mined. More recently, there has been a shift in the industrial economy away from heavy industry to manufacture of information technology equipment and towards service industries such as finance, tourism and retailing. Coal is no longer the main source of energy; extensive oil and natural gas resources in the North Sea have been exploited and Scotland has made use of hydroelectric power in the highland areas and nuclear power elsewhere.

In the last twenty years, there have been several national reviews which established that the UK was falling behind its competitors in the training of its young people and its employees. This has led to an extensive review of vocational education and training and of the qualifications system which supports it. The result, supported by the government, has been the development of a standards-based qualification system which depended on organisations both running the education and training and carrying out the assessment which lead to the award of qualifications; this is a significant change in a country which traditionally made much use of written examinations as the basis for qualifications.

The government has also invested large sums of public money in the vocational education and training system, particularly to support schemes for the training of young people (those not aiming for higher education) and of long-term unemployed people. The government's approach was to encourage the use of qualifications as the end-point of training by requiring that much of its funding of these schemes was paid when the vocational qualification had been achieved. Given that the vocational education and training sector is a competitive market, the introduction of a payment by results system put pressure on the qualifications bodies and the organisations responsible for allocating government funding; these bodies had to ensure that the quality of vocational education and training was high and that the assessment standards required for the achievement of qualifications were being maintained. Thus the development of quality assurance systems was essential.

The VET infrastructure in Scotland and the Quality Jungle

The Scottish Qualifications Authority is the national agency for qualifications; it was created in 1997 through the merger of the Scottish Vocational Education Council (SCOTVEC) and the Scottish Examination Board. Although some of the work of developing the Scottish Quality Management System was carried out by SCOTVEC before the Scottish Qualifications Authority had been established, this paper, for simplicity, refers to SQA throughout.

The SQA is a body set up by law and is accountable to the Secretary of State for Scotland (a minister in the UK cabinet). In future, SQA will be accountable to the First Minister, who will be the head of government in the new Scottish Parliament. As in the rest of the UK, certificates for national qualifications are issued by awarding bodies, not by the organisations which carry out the training. As part of its role as the national awarding body for Scotland, SQA has developed an extensive system of quality assurance designed to ensure that the design of its qualifications, the capability of education and training organisations and the fairness and accuracy of their assessment are all of high quality. In particular, organisations wishing to use SQA qualifications must comply with a set of approval criteria before being allowed to enrol candidates for these qualifications.

There is a wide variety of organisations involved in the delivery of vocational education and training in Scotland. They include schools, colleges, universities and private sector workplaces and training organisations. In most of these, the vocational education and training will lead to national qualifications certificated by the SQA. There are over 1,300 organisations approved by SQA to run its qualifications.

Scotland also has a network of Local Enterprise Companies, responsible to the government through two parent bodies, Scottish Enterprise and Highlands and Islands Enterprise. There are 22 Local Enterprise Companies, each responsible within a geographical area for training, for encouraging new employment and for environmental improvements. One of the responsibilities of the Local Enterprise Companies is to channel the government's funds for training to colleges, training organisations and employers.

The Local Enterprise Companies needed to ensure that this government funding was given only to organisations which would deliver high quality vocational education and training. Each therefore set up quality systems to monitor the quality of training organisations and to ensure probity in the claims for government funds - and each designed its own systems, procedures and documents.

There are other quality systems in the UK, too. The international quality standard ISO9000 (originally known in the UK as BS5750) has been translated into a format suitable for use in education and training organisations and some organisations have been successfully assessed against the standard. Some years ago, there was a mistaken belief among some organisations that the Local Enterprise Companies might require the achievement of ISO9000 as a condition of providing government funding for training, just as some manufacturing companies require sub-contractors to have achieved this standard. A further national mark of quality in the UK is the Investors in People (IiP) standard. This is awarded to an organisation which can show that it has a high quality system for the development of its staff and that the system is linked to its business objectives. Last, but not least, the Further Education colleges, which are major public providers of vocational education and training, have to comply with quality criteria established by the government and monitored by Her Majesty's Inspectors in the Scottish Office Education and Industry Department.

Vocational education and training organisations had considerable problems in working within this range of quality standards and systems because

- there was no easy way of relating one quality standard to another or of seeing easily how each fitted together into an overall framework.
- organisations found themselves being required to meet several sets of quality criteria through separate audits, even though the criteria being audited had much in common, in order to meet requirements of their Local Enterprise Company and the SQA.
- organisations with sites in more than one part of Scotland had to meet the quality requirements of each Local Enterprise Company in whose area they had a site.
- there was no means of obtaining credit transfer between quality systems.

These problems led to unnecessary bureaucracy and duplication, and to increased costs, for training organisations.

A Route through the Jungle

In 1980, SQA's predecessor engaged in an extensive review of its quality requirements. At that review, its approved organisations raised the issue of overlap and duplication between quality systems. This led to the setting up of a working party involving four national partners - SQA, the Scottish Office Education and Industry Department, Scottish Enterprise and Highlands & Islands Enterprise. As a result, Scottish Enterprise funded a development project under a management group involving the four national partners and the appointed project contractor, the Scottish Further Education Unit.

The aims of the project were to

- carry out a detailed analysis of the criteria in each of the various national quality systems
- identify a single set of criteria which could be accepted by all stakeholders
- see if a form of credit transfer could be established for organisations which had to deal with more than one quality system
- investigate the feasibility of a national quality auditing system to underpin the allocation of government funding for training
- produce a form of documentation which would encourage organisations to carry out self-development and continuous improvement.

The project was successfully carried out, and the result was the Scottish Quality Management System (SQMS). SQMS is a set of 14 quality standards, each with associated pointers and suggested evidence of compliance. The standards cover all the characteristics which would be expected of a high-quality education and training organisation, such as strategic management, induction and guidance systems, staffing and staff development, quality of learning and assessment for certification. The full set of standards is listed in appendix 1.

The SQMS documentation consisted of:

- a ring-binder containing the standards, pointers and suggested evidence, arranged in a format suitable for use as a self-assessment checklist. This can be used by an education and training organisation as a self-development tool to support evidence-gathering and internal audit against the standards. It therefore forms the basis of a decision by the organisation on readiness for external audit. The standards also provide the basis for external audit.
- a cross-referencing system to show the relationship between the SQMS standards and those of Local Enterprise Companies, SQA, Investors in People, the Scottish Office Education and Industry Department (for colleges) and ISO9000.
- a supplementary folder containing advice on areas such as good practice in internal auditing against the standards.
- a description of the way in which mutual recognition and credit transfer could be obtained.

The standards and pointers were produced as a common-language version of all of the requirements of the quality systems which made up the previous jungle. The total list of standards and pointers did not need to be fulfilled to meet each of the national partners' quality criteria; rather, each partner's requirements made up a sub-set of the SQMS standards and pointers. Thus, for example, the Investors in People standard, which is focussed mainly in strategic planning and staff development, made up a small sub-set of the new SQMS standards and pointers. By contrast, the requirements of SQA made up a substantial sub-set.

As part of the SQMS development process, detailed discussions took place between the national partners and the Local Enterprise Companies, who would be key users of the new system. Agreement was reached between all 22 Local Enterprise Companies that each would recognise the outcome of an external audit conducted by another, provided that the external audit system was nationally consistent. SCOTVEC also joined this mutual recognition scheme for those of the standards which were common to its subset and the Local Enterprise Companies' subset. It was also agreed by the Local Enterprise Companies that they would provide credit against the SQMS standards for organisations which had achieved the Investors in People standard and would consider such credit for those who achieved

ISO9000 (although this depended on an analysis of the scope of the organisations' ISO9000 registration).

The key mutual recognitions, to really cut through the quality jungle, were those

- among Local Enterprise Companies
- between Local Enterprise Companies and SQA

These are the interactions which affect almost every vocational education and training organisation in Scotland. To support this mutual recognition system, a set of ground-rules for external audit was agreed by the SQMS management group. This included the need for anyone acting as an external auditor to have achieved a qualification; this is a competence-based module developed by SQA and jointly certificated by SQA, Scottish Enterprise and Highlands & Islands Enterprise. To ensure tight and consistent standards of auditing, the national partners have worked together on the training and assessment of SQMS auditors.

The final move in establishing SQMS was the requirement that all Local Enterprise Companies use it as the basis for awarding contracts to organisations to carry out government-funded training; all organisations were required to be successfully audited against the SQMS standards in order to qualify for training contracts for the year 1993/4. The audits were organised by the Local Enterprise Companies using SQMS-qualified external auditors.

SQMS in Action

SQMS has now been used as the basis of contracts between Local Enterprise Companies and education and training organisations for the past five years. The requirement is that the organisations are audited against the Local Enterprise Companies' subset of the SQMS standards before they receive their first contract; they then receive a monitoring audit in each of the succeeding two years. The monitoring audit involves a sample compliance check against around one-third of the SQMS standards and pointers. A full re-audit is required in the third year.

The system has succeeded in imposing a high hurdle to be cleared by any organisation wishing to receive government funding for training. In association with SQA's quality systems, it has also provided a deterrent against any temptation which an organisation might have to claim funding for trainees who had not met the standards required for the award of a national qualification. The external audit requirement, and the nationwide coverage of the SQMS process, has considerably raised the "quality profile" in the vocational education and training sector in Scotland.

The mistaken perception among vocational education and training organisations that Local Enterprise Companies might require them to achieve the ISO9000 standard was mentioned earlier in the paper. With the introduction of SQMS, the quality requirement of the Local Enterprise Companies became very clear; all vocational education and training organisations seeking contracts for government funded training knew that they had to work to SQMS standards. This led to a decline in interest in the achievement of ISO9000 by education and training organisations in Scotland.

SQMS has also attracted considerable attention from outside the sector for which it was designed. It has been taken up voluntarily by agencies in Scotland which do not require it for funding purposes - such as the Scottish Careers Service. It has also been taken up elsewhere in the UK, being the basis of the design of a quality system for one of the Training and Enterprise Councils in England and being used to quality assure training organisations in Northern Ireland.

SQMS has also been the source of interest from Europe and beyond. A project proposal to develop a European version of SQMS has been funded by the European Union. SQMS was also used as the basis for the development of the quality system for further education colleges in Western Australia.

Review of SQMS

Given the importance of SQMS in the Scottish vocational education and training scene, the national partners agreed that it should be the subject of a fairly early review to ensure that it was meeting its intentions and to measure the effect it had had on the vocational education and training sector.

Thus two reviews were commissioned, each to be completed by mid-1996.

- A review of the standards themselves, and of the documentation. This involved extensive consultation with national partners, vocational education and training organisations and SQMS auditors.
  Generally, the outcome of this review has been to show that the original standards and documentation were well-designed and continued to meet needs of both Local Enterprise Companies and vocational education and training organisations. Therefore changes to the standards and the documentation arising from this review were relatively minor in scale.
- A review of the impact of SQMS on the vocational education and training scene. This involved questionnaire analysis and in-depth interviews of national partners, Local Enterprise Companies, vocational education and training organisations and SQMS auditors by an independent team of consultants.

  The outcome of this analysis has confirmed that SQMS had a major impact in raising the quality profile among vocational education and training organisations and employers. The analysis raised a number of issues about the management of SQMS, about the training and management of the SQMS auditor team and about mutual recognition and credit transfer, all of which have now been addressed by the management group.

The outcomes of the two reviews have been

- a revised version of the SQMS standards and documentation, mostly consisting of minor changes to improve layout, presentation or clarity
- changes in the way in which SQMS auditors are trained and retrained, including the development of a formal registration system
- changes to the system of mutual recognition and credit transfer
- an investigation of the possibility of setting up a separate agency to operate the SQMS audit system on behalf of the national partners.

There are issues which will have to be considered in future, now that SQMS is well embedded in the range of organisations, and for the scope of training, for which it was designed.

- SQMS forms a set of quality standards which are applicable as good practice for the delivery of all training, not just that which is government funded. Therefore consideration needs to be given to whether the scope of SQMS could be extended to other work in colleges and training organisations - and possibly even to the school sector.
- SQMS was originally intended to be both a self-development tool and an audit system. Whilst it is likely that successive generations of the SQMS standards will gradually raise the quality threshold, it is also true that some organisations will develop a consistently high-quality track record in delivery of training and in meeting the SQMS standards. A mechanism needs to be found by which to reward such a good track record, perhaps by shifting the balance in such organisations to self-evaluation and to reduced external audit load.
- The extent of mutual recognition and credit transfer needs to be extended so that two-way recognition is achieved. Thus, for example, Investors in People recognition could be achieved via the SQMS audit, as well as credit being received against the SQMS audit by an organisation which has first achieved IiP or ISO9000.

In Scotland, therefore, the development of SQMS has enabled vocational education and training organisations to find a route through the quality jungle of previously disparate approaches to quality assurance. One of the future developments may be the development of a Europe-wide quality development tool based on the lessons learned from SQMS and from benchmarking exercises with other European countries. Thus the globalisation being experienced in many other areas of employment might also extended to the vocational education and training industry.

APPENDIX 1

1 STRATEGIC MANAGEMENT

The organisation has a clear sense of purpose
and direction.

2 QUALITY MANAGEMENT

The quality system ensures that clients', learners'
and staff needs are met..

3 MARKETING

The needs of the organisation's clients and learners are identified; its education and training services are effectively promoted.

4 STAFFING

The structure, level, and type of staffing is appropriate for the education and training services provided.

5 STAFF DEVELOPMENT

Staff development provision meets organisational and individual development.

6 EQUAL OPPORTUNITIES

Equal opportunities are ensured for all clients, learners, and staff.

7 HEALTH AND SAFETY

There is a safe and healthy environment for all learners, staff and visitors.

8 PREMISES AND EQUIPMENT

Premises, facilities, equipment and materials are appropriate to the education and training services provided.

9 COMMUNICATION AND ADMINISTRATION

Communication and administrative arrangements meet the needs of external bodies, clients learners and staff.

10 FINANCIAL MANAGEMENT

The organisation is financially sound and can make a reliable provision.

11 GUIDANCE SERVICES

The needs of individual learners are identified, action plans/personal training plans are formulated, progress is reviewed, and support is provided where needed.

12 PROGRAMME DESIGN

Outcomes and content of programmes are relevant: form and structure encourage access and are responsive to needs; learning and assessment methods are appropriate to the aims and purposes of the programmes.

13 PROGRAMME DELIVERY

Training and teaching is purposeful and there is attention to the needs of individuals; the methods used are appropriate, emphasise activity and responsibility, and are varied.

14 ASSESSMENT FOR CERTIFICATION

Assessment instruments allow evidence of all candidates' sustained competence to be gathered; the evidence conforms with the standards required by the awarding body for the award: assessment is internally verified: awarding body requirements for external verification are met: there is an appeals system.

ACCREDITATION OF TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING IN GERMANY

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Abstract

Accreditation is the activity by which an accrediting body (public or private) evaluates a TVET institution or program and formally recognizes it as having met predetermined standards. Accreditation has two fundamental purposes: to assure the quality and to assist in the improvement of persons, products and/or processes. In Germany, about 2/3 of an age cohort receive their initial training in the so-called Dual System of vocational training. Responsibility for quality assurance in German TVET is divided amongst public, public-private and private institutions. Two examples, one of the public and one of the public-private area of the Dual System, show the close connection between quality assurance and quality improvement.

1. Introduction

To produce high quality products, you need high quality people - and highly qualified people usually are the "product" of the national system of TVET. Based on this simple formula, globalisation, together with the resulting competition, have sparked off a number of efforts in different countries to change and improve national systems of TVET. There is a restructuring of educational systems in countries like Argentine, Chile, Spain and Venezuela; there are new approaches like modularization and competency based training in Australia, Canada, England and Mexico.

Taking this into account it is worthwhile analysing the German model of quality assurance in the TVET-system, because the results might be interesting for other countries.

2. Accreditation in TVET

Accreditation - like the word qualification - is used for a **process** and the **result** of this process. Accreditation as a **process** is the activity by which an accrediting body (public or private) evaluates a TVET institution or program and formally recognizes it as having met certain predetermined criteria or standards. For example, accreditation through a public body is a process by which each school district and each vocational school within the district is assessed and is monitored by the state in order

- to identify existing strengths,
- to plan and implement improvement,
- to assure legal compliance and
- to assure the public that students/trainees are learning in accordance with locally determined performance standards.

Accreditation as a **result** is a status or recognition granted to a TVET institution or program that has been found to meet or exceed stated quality standards. Accreditation is usually granted for a fixed period.

3. Quality Assurance and Quality Improvement of Persons, Products and Processes

Accreditation has two fundamental purposes:

- to assure the quality of persons, products and/or processes, which provides State and/or National recognition
- to assist in the improvement of persons, products and/or processes, which provides confidence in qualifications (= products) achieved in such processes.

The basic process of quality assurance consists of four steps:

1. Standards committees develop and adapt standards
2. Accrediting institutions approve standards
3. Competent institutions assess quality
4. Awarding bodies award accreditation or certification

The basic process of quality improvement consists of three steps:

Training providers, such as schools, colleges or vocational training centers

a) design improvements
b) implement activities
c) monitor progress

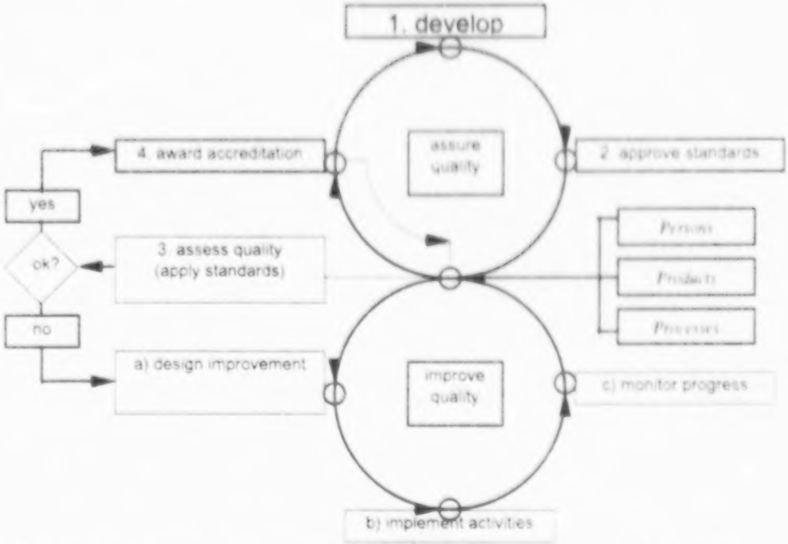
1. develop
assure quality
2. approve standards
4. award accreditation
yes
ok?
3. assess quality (apply standards)
Persons
Products
Processes
no
a) design improvement
improve quality
c) monitor progress
b) implement activities

Fig. 1: Model of quality assurance and quality improvement of persons, products and processes

4. The System of Technical and Vocational Education and Training in Germany

4.1 German TVET-Law

The Federal Republic is made up of 16 states (Länder), including five originating from the former German Democratic Republic. Each state has its own constitution and government. Educational legislation and administration of the education system are primarily the responsibility of the states. The Basic Law defines number and scope of the Federation's responsibilities in the field of education. This applies, amongst others, to the regulation of in-company initial and further vocational training. Based on this regulation each state then creates and implements its own legislation.

4.2 The System of General Education and of TVET

Compulsory schooling for all children is from the age of six to eighteen. After 10 years of general education the alternatives available for 16- to 19-year-olds at upper secondary level consist of:

- general education;
- mixed general and vocational education;
- vocational education and training, either full-time or part-time.

Most young people (about 2/3 of an age cohort) attending the upper secondary level take vocational education and training, and most of them pass through the dual system of vocational training. The system is described as a "dual" system because training is carried out mainly at two places of learning, which are a „working-place“ in a company and the vocational school (Berufsschule). Further training comprises technician courses, master courses and modules of further training.

5. Quality Assurance and Improvement in the German TVET System

Initial training comes either under public (with only a few students) or public–private responsibility (with the majority of students); for further training there exists either public, public-private or private responsibility (see Fig.2). There is quite a number of different institutions involved to assure and improve the quality of persons, products and processes of TVET. In public-private institutions there is usually a tripartite participation, involving government, employers and workers representatives.

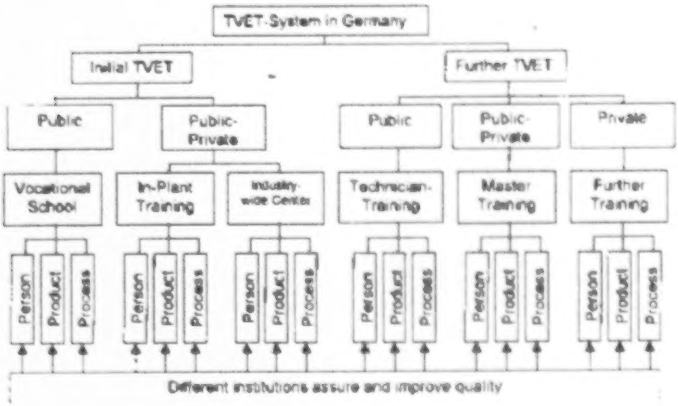
TVET-System in Germany
Initial TVET
Further TVET
Public
Public-Private
Public
Public-Private
Private
Vocational School
In-Plant Training
Industry-wide Center
Technician-Training
Master Training
Further Training
Person
Product
Process
Different institutions assure and improve quality

Fig.2: Responsibilities for Initial and Further TVET in Germany

Two typical examples, one of the public and one of the public-private area of the Dual System, show the close connection between quality assurance and quality improvement (see Fig. 3 and 4).

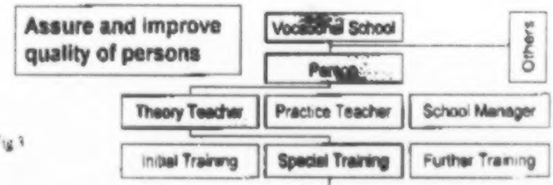
Assure and improve quality of persons
Vocational School
Others
Person
Theory Teacher
Practice Teacher
School Manager
Initial Training
Special Training
Further Training

Fig 3

Quality assurance	Develop standards	Groups of experts develop standards for special training of theory teachers, based on state school laws
	Approve standards	State Ministry of Education (MoE) approves standards (for special training and examination)
	Assess quality	Representatives of MoE participate in examination (2nd state examination: 2. Staatsprüfung)
	Award accreditation	MoE awards Certificate of TVET Teaching Qualification which entitles to teaching in TVET-Schools
Quality improvement	Design improvement	„State Seminar" for TVET organizes special training of two years duration according to published standards
	Implement activities	Training in „seminar" and in school (visits of mentor's classes, own supervised teaching, own teaching)
	Monitor progress	Special teaching exercises (Lehrproben), supervision and feedback by mentor, continuous evaluation

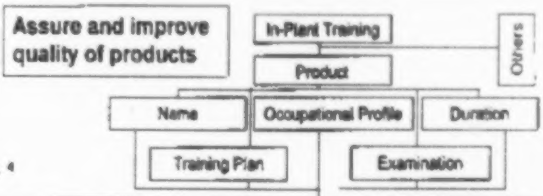
Assure and improve quality of products
In-Plant Training
Others
Product
Name
Occupational Profile
Duration
Training Plan
Examination

Fig 4

Quality assurance	Develop standards	Tripartite groups of experts develop standards for training regulations at BIBB, based on vocational training act
	Approve standards	Federal Ministry of Education and Science, jointly with competent Ministry (e.g. Economy) approve standards
	Assess quality	Chambers organize, carry out and evaluate intermediate and final examinations, with trade unions and teachers
	Award accreditation	Chambers award certificates of skilled worker or craftsman, recognized by all branches of the economy
Quality improvement	Design improvement	Companies adapt training plan to flow of production and contract apprentices for 2 to 3.5 years of training
	Implement activities	Certified in-plant instructors are in charge of training, apprentices are trained in company departments
	Monitor progress	Feedback by instructors provides continuous evaluation, obligatory weekly reports, intermediate examination

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SOME ASPECTS OF THE COMPANY-UNIVERSITY RELATION IN ENGINEERS ALTERNATIVE TRAINING

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ABSTRACT :

Two French organizations, the CNAM and the training center for apprentices (Engineers) Ingenieurs 2000, provide professional training and have a closely association with industrial partners.

In this paper, we present general points about the apprenticeship regulation and our organization. We develop the management of the partners : how we ensure a good partnership in spite of the heterogeneousness of actors (school, university, company or professional organization) ; how we manage the exchanges between the actors (tutors, human resources services, teachers, alternation services). We present our evaluation methodology with an academic and a professional sequence of same duration.

We present our plan about the quality and we conclude on the possibilities of international development of our methodology.

I. GENERAL PRESENTATION

I.1 The French apprenticeship.

At the end of the eighties, French authorities encouraged the training for high level degree by the way of apprenticeship. The french apprenticeship legislation is old ; it include reglementation and financial resources. But the possibilities to have a long apprenticeship contract (two or three years) is recent. So at the end of a first cycle of high level education (Technician degree obtained in IUT -Institut Universitaire de Technologie-), the applicant can sign a work contract called apprenticeship contract. By this contract between a company and an apprentice, the company commits itself to divide share each year in two egal parts. One is called the academic sequence and the other the professional sequence.

We mention particularities : apprenticeship is an initial training; the apprenticeship contract must be ended by a accredited degree; apprentices are remunerated on the basis of a percentage of the minimum wage (from 25 % to 78 % according to the age and year of training).

The company entrusts the responsibilities of the training to an accredited office. This office , the CFA (Apprentice Training Center) provides the academic training and guarantees the good pedagogic execution on the overall training. It receives funds from land organizations and from industries association.

I.2 The CFA « INGENIEURS 2000 » and the CNAM

After these general points let us say some words on our institution and after that, we will speak about specific aspects of the company-university relations. The name of our CFA is « Ingenieurs 2000 ». It was created through the combined efforts of six firms (Schneider, Renault, Thomson, EDF/GDF, Usinor and SNECMA) with the participation of UIMM (Union des Industries Métallurgiques et Minières). UIMM is a large federation of employers ; it is a very active support of vocational training.

For the academic sequence, CFA Ingenieurs 2000 has chosen a higher education institution : the CNAM (National Conservatory of Arts and Trades). The CNAM is a peculiar university mainly devoted to training for students who are at work. The priority of the CNAM is the relations with companies in education and research areas. The CNAM has a network of 80 centers in France to perform its missions.

Each year of alternation periods between academic and professional sequences can be divided in different modes, one month/one month, two months/two months.. Ingenieurs 2000 has chosen a long alternance :each year is divided in two sequences of six months. This choice is original in France and it permits to develop coherent activities in the school and in the company.

Now, we have 200 companies as partner and 450 apprentices. They work everywhere in France. 5% are working in European countries. Education premises are in Paris area. We have three streams : Mechanical and production system ; Electronic and system ; Electrical engineering.

We give a great importance to the following and the evaluation of apprentices on the overall training. We have an internal organization which manages the tutoral activities. Each apprentice has two tutors : an engineer tutor designated by the company to undertake a mission of preparation, training and evaluation of professional session ; a teacher tutor designated by the school to undertake a mission of apprentice's help and of management of tutoral team (two tutors and one appentice). The teacher tutor visits more than twice the apprentice's company for the professional sequence.

II THE TRAINING PARTNERSHIP.

It is necessary to have a good partnership at each step of the training.

II.1. Creation of a stream

First, when we wish to create a new stream, we must have a large concertation with the companies and the professionnal organisation. We must verify the need for engineers in the new area. It is also important to have meetings with an expert group. This group is made up of skilled workers able to define the field of wished competence and the true activity of the future engineer. This audit allows to associate firmly the company needs and the curriculum. It permits also to verify the good adequation of the training with the apprenticeship abilities.

II.2. The evaluation

When the stream exists, we have three kinds of problems : if it is easy to have a good dialogue with industrial partner to define a good program for the professional sequence, it is more difficult to balance the evaluation between the two sequences.

Obviously, the modes of evaluation are heterogeneous : weight of marks with the academic sequence and weight of behaviour with the professional sequence. The risk of overevaluation of the first and underevaluation of the second is high. The ignorance of the engineer tutor about evaluation and its hesitations to go against educational habits enhance the risks. So it is necessary to have a good regulation towards this risk. We give here some recommendations.

- It is better to have an accreditation ot the degree specific to alternation.. Then the regulation of the curriculum can equilibrate the weight of evaluation. If we keep the traditional regulation of universities, the weight of professional training periods is always weak.
- The jury must be with equal representation of both partners. But when a apprentice has some difficulties, we have frequently a good professional sequence and a bad academic sequence. This situation must not lead to a failure (repetition of the year or expulsion). We must truly examinate with an equilibrate methodology the two sessions and this is possible with a good participation of the tutoral team.
- Let us come again on the apprentice who has problems with the academic sequence. When a company signs a contract with an apprentice, it hopes his success and also his employment as an engineer. Then in a spirit of partnership, the CFA has a contract of progress with the apprentice's company. So it is compulsory to have a policy of help to the apprentice. This help can be collective but very often it is necessary to have individual help. Let us mention that if the support is academic, it does not encroach on professional sequence.

This support is expensive ; it is unusual in public higher education. We observe that 50% of problem apprentices solve difficulties on two years. It is a good reason for the satisfaction of our partners.

II.3. Relations with the human resources department.

« Ingenieurs 2000 » organization has two levels of relations with industrial partner. One is a « training » relation with the engineer tutor by the way of our alternation service, another is a human resources relation with the company with a specific HR service.

The aim of HR service is to promote apprenticeship in our partners, to measure the satisfaction of the company but also to operate when it shows signs of failure or bad execution of the contract ; in this last situation, the HR service finds a new partner for the apprentice.

HR service has also a mission of professional integration for our new engineers.

We also plan to have a post-diploma policy for our old apprentices. This activity will be developed, if possible, with the agreement of the company. Our experiment of alternation and the abilities of the CNAM permit some innovation in this area.

III QUALITY CHARTER.

The undertaking of a good partnership requires a charter which details our methods, our regulation ; the charter also says our endorsement and also that of our partners.

The main chapters of this charter concern :

- The organization of Ingenieurs 2000, the CFA, the schools, the financing.
- The procedure of creation of a next stream and aiso the profile of the trained engineers with the specificity of alternation and apprenticeship.
- The description of the overall training with the alternation tools, the policy of support..
- The engagement of the school in the training (human and practical support).
- The duties of the company.

This quality charter is included in our project to obtain an accreditation ISO 9002 in the future. But this charter is very important and permits a quite clear partnership.

This charter is also a good tool for the development of the apprenticeship and the alternation system. The quality charter defines our « product of training ».

IV CONCLUSIONS.

Ingenieurs 2000 is seven years old. Our main evolution for it seven years is a constant improvement of our company-Ingenieurs 2000 relations. This improvement is compulsory if we want to respect the possibilities of the alternation and of the apprenteship regulations. In this papers we shows the main axis of improvement : definition of the searched competence with the help of the CNAM, support of problem apprentices, relations with human resources department or managers. We insist also on the importance of a descriptive document :the quality charter.

Is our experience exportable ? Yes, we have a first good example with Hungary and we can extend this in other countries.

Obviously, the French apprenticeship regulation is not directly exportable, but we can develop alternation with other kinds of training contracts. The difficulty is the financing mode.

We prepare engineers degree. It is possible to prepare other kinds of « vocational » degree : technician, master..

Our training duration is three years. It is possible to limit the alternation duration to two years. Below, the alternation loses a large part of its abilities.

We conclude that having a good higher education training plan with alternation needs the accreditation of the training. It is also essential to have well-motivated (small or large) companies and a training organization ready to work in good partnership with professional organisms.

MAINTAINING QUALITY IN THE DEVELOPMENT OF VOCATIONAL EDUCATION PROGRAMMES

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Abstract

The quality of vocational education programmes is concerned with their characteristics, standards of excellence, and fitness for purpose. Maintaining total quality requires the range of quality issues within curriculum, institutional and staff development and their inter-relationship to be addressed. This is the concern of all parties involved. Key predominant and recurring quality issues in vocational education are the adequacy of physical and human resources, assessment including moderation arrangements, management systems, quality assurance and control. Also of concern are the appropriateness of intended outcomes, the effectiveness of teaching and learning arrangements, and equal opportunity issues. Development and operation requires a systems approach. National requirements should encourage rather than restrict the creativity of providers, avoiding over specification and minimising bureaucracy. Monitoring the quality of programmes in progress can benefit from the use of management information system (MIS) data, simple questions, and a 'red- alert' mechanism.

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Introduction

Professional curriculum developers and teachers have always been concerned with quality but in recent years more explicit attention has been given to the specification of quality criteria, and time spent overtly monitoring whether intended outcomes have been achieved and quality standards met. This paper selects some of the key factors which are fundamental to maintaining quality in vocational education and which reoccur in the development and implementation of curriculum and qualifications. It draws on experience of evaluating changes in scientific and technical vocational education provision over the last 25 years. The views which are expressed are those of the author, who gratefully acknowledges ideas arising in work and discussions with colleagues.

Concepts and perspectives

The quality concept - the meaning of quality

Quality is a pervasive concept. When we refer to quality we may be referring to:

- the nature and characteristics or attributes of something (in this case vocational education) - those things which describe vocational education; and/or,
- the standards of excellence -the socially constructed values and judgements which we make about a programme of vocational education; and/or
- the fitness for purpose of the programme, in the business sense - does the provision meet the requirements or the defined standards? (1)

Quality in vocational education is concerned with the curriculum in its widest sense, and with using available resources most effectively to gain the maximum amount of achievement by as many students as possible. Total quality will only be achieved when the range of quality issues within curriculum, institutional (organisational) and staff development have been addressed in relation to one another.

The need for a systems approach

The quality of vocational programmes can be assured through a systematic process of development and operation. The development system involves a continual process of needs-analysis, design,

implementation and evaluation. In a systems view the inter-relationship between all the elements will be examined. In operation, colleges and schools must similarly make decisions about appropriate teaching and learning strategies and methods which take account of their relationship with intended outcomes and assessment, and require evaluation for continual improvement.

The context for curriculum and qualifications development and delivery

Much of the vocational education provision in England and Wales is characterised by a 'centre-periphery' model in which national organisations develop qualifications and programmes for uptake and adoption by colleges, schools and institutional providers at the periphery. These providers seek to influence developments in order to be able to meet effectively the needs of their students and local employers.

National bodies include the qualification authorities (now principally the Qualifications and Curriculum Council, QCA, which subsumes the former National Council for Vocational Qualifications), employment and standard - setting bodies and awarding bodies who approve centres. QCA is responsible for accreditation of the qualifications and approval of the awarding bodies. Awarding bodies approve college, school and other centres, provide external assessment where required and appropriate, and monitor the assessment of students and the adequacy of centre arrangements. The centres are responsible for the recruitment of students, learning programmes, assessment, relationships with local industry and employment opportunities.

Approach and Method

The paper draws on an analysis of various policy papers and practices on quality with regard to vocational education, findings from evaluation studies of vocational programmes (2), development work, and reports by the Further Education Development Agency and its predecessor.

Observations on Quality

Quality and the attributes of vocational education

For programmes of vocational education to have quality in the descriptive sense (3) they will be characterised by:

relevance to work and employability, with employer links and involvement;

breadth: including personal and intellectual development, career development, skill development, economic and environmental implications, ethical obligations, development of responsiveness and adaptability;

the application of knowledge and skills: technical skills, skills to standards; communication and interpersonal skills, planning, problem solving, learning to learn skills, self organisation;

active learning methods and experiences: projects and assignments, work-related settings, teamwork, simulations, work experience

responsiveness to local and national needs, to the pace of change, skills for the future.

Some key determinants of and requirements for quality

The following quality concerns recur throughout the changes which have occurred in the development and organisation of vocational curricula and qualifications, in attempts to rationalise provision and ensure its appropriateness for the future in a changing world: resource availability, assessment (of learning and achievement), management systems, quality assurance and control. Important also are objectives/standards (intended outcomes) and teaching and learning methods. Equal opportunity issues receive increasing attention as a fundamental criterion of quality.

Resources The availability of resources both physical - accommodation, equipment, learning resources, and human - qualified and appropriately experienced is fundamental in determining the quality of provision (and yet there will be perhaps inevitably attempts to manage with less than the required minimum). Careful appointment of staff and monitoring of all resource needs is

paramount. Continuing staff development with industrial updating is essential.

Assessment Assessment must be fair, reliable and valid. But it is necessary to recognise that it is a sampling process. Over-assessment and undue bureaucracy should be avoided (4), and the impact of assessment methods and processes on the kind of teaching and learning recognised. Assessment methods should be matched to and appropriate for the kinds of outcome. Simple records should be maintained. Internal moderation is essential. External examination should form part of assessment where economic and to help towards control of standards. External moderation should refer to examples of student work of the appropriate standard.

Management systems Organisations must demonstrate quality systems, resource availability, good communication procedures, and equal opportunity policies.

Quality assurance and control arrangements involve a process of policy making, communication, action planning, implementation, monitoring against public criteria and review. The appointment of appropriately qualified and trained external moderators is an essential part of quality control.

Intended outcomes/objectives/standards should not be over specified, but professional judgements by teachers and assessors enabled.

Teaching and learning requires committed programme leaders, and benefits from team operation. Emphasis on student-centred learning and addressing individual student knowledge and skill deficiency is critical.

The processes of programme development and operation

The processes, whether being undertaken at the national centre or by a college or provider, require a systems approach.

Analysis requires valid systematic feedback and evaluation of related existing provision and objective analysis of need.

Design requires rigour in approach, but also flexibility so that colleges can meet industries' requirements and enable students to build their own coherence and include work experience.

Implementation should_enable flexible delivery, organisation of learning to include tutorial and counselling support, emphasise knowledge application, problem solving, self assessment and work experience, provide sufficient time for learning, and Access opportunities.

Evaluation will address purposes, outcomes, organisation and management policies, effective use of resources, lines of responsibility. Having identified action required, clarifying action to be taken by whom and with what support is fundamental.

Monitoring the quality of on-going learning programmes

There is a tendency to evaluate the strengths and weaknesses of a programme at its completion, or perhaps at a half-way point. Maintaining quality requires continuous monitoring and yet without recourse to an excessive amount of time and resource. In a recent project an approach was developed to facilitate continuous regular feedback and monitor the health of a programme during its progress (5). This involved three components:

- regular and perhaps commonplace monitoring of data on student attendance, retention, and punctuality (now often available through management information service (MIS) data)
- a simple question, asked periodically by a course manager of students: 'what three things could we do to most improve the learning experience for you?' (and also a similar question of teachers)
- and more original, the inclusion of a 'red-alert' mechanism , a formai procedure to be used by students or staff when quality is at stake and urgent action is required as normal processes have failed. Such procedures need well managed and consultative processes before their introduction.

Once issues are raised it is essential that they are fully addressed, solutions managed and responsibilities taken.

In Conclusion

The achievement of quality requires a commitment to the quality characteristics of vocational education. Lessons from recent years bring important messages for those developing programmes nationally or running programmes locally. Some of these are:

- **take a systems view of development, and consider fully the implications of decisions made in development on the day to day practice by teachers implementing. Recognise that decisions on some elements of provision will have effects on others**
- **manage an appropriate balance of local and national control located appropriately and as close to the learning delivery as possible**
- **pilot new developments before implementing on a wider scale**
- **don't attempt major change without the resource base to do it**
- **ensure colleges, schools and centres meet approval criteria and have the necessary resources**
- **avoid over specification of curricula and qualifications**
- **keep processes and requirements administratively as simple as possible, and not unnecessarily bureaucratic**
- recognise that students need sufficient time for learning
- moderate achievement and monitor provision against guidelines
- be selective in evaluation and attend to the issues of most importance for the longer term.

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QUALITY ASSURANCE AND OCCUPATIONAL COMPETENCE OF INTERCULTURAL BRIDGEMAKERS IN VOCATIONAL EDUCATION

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Abstract

Vocational training is often burdened by inter-ethnic tensions and conflicts, as well as unsatisfactory scholastic achievements, due to its inadequate strategies for coping with high proportions of immigrant students.

In order to deal with the problem, the role of *Intercultural Bridgemaking* has been introduced in some schools in Israel. This role has two aspects (a) small-scale interventions, focusing on loose ties in the triangle of the individual immigrant student - immigrant family - teacher; and (b) system-based interventions, aiming for a more pluralistic school climate and a more entrepreneurial organizational culture.

Only when ample attention is given to quality assurance and occupational competence of the bridgemakers, can this role be effective . The paper describes their selection via a specially designed assessment-center, and their intensive on-the-job training, which includes individual tutoring and group-supervision in a complex design.

1 Introduction

Throughout the world today immigration is becoming a phenomenon of increasingly large numbers. Wave after wave of migration mold culturally heterogenic societies and lead to culturally heterogenic schools .

This is especially true of vocational education .

In Israel, as in many other countries, a large proportion of immigrant students are placed in vocational schools and in non-matriculation vocational tracks. Thus vocational training is often burdened by inter-ethnic tensions and conflicts as well as unsatisfactory scholastic achievements.

The policy prevailing in most immigrant-receiving societies up to the '70s has been one of assimilation. Successful integration of immigrants has been defined in terms of their abandoning 'the old ways' and becoming just like the veteran members of the host society (Adler & Sever 1994b). Since then, however, this policy is gradually being abandoned in some countries. One of the major reasons for this change is, that in the long run the assimilation approach results in the permanent marginalisation of large segments of specific ethnic groups (Sever 1997a).

For immigrant youngsters, **contextual marginality** (i.e. the conditions in which the youngster grows up) is often accompanied by **personal marginality.** This kind of marginality is defined by how they perform their student role.

Kahane & Star, (1984) suggest that a student's role can be defined by three major components: means (equipment, cognitive, skills), networks (interaction, communication) and rules (values, norms).

Accordingly, personal marginality of a an immigrant student in Israel would be indicated by indicators such as the following (Sever, 1997a, p.515-516):

MEANS: lacks school books and other equipment (notebooks, pencils, sport-clothes/ shoos etc), either because they were not purchased by parents (no money, no time, forgot), or because he forgets to bring them to school; poor scholastic achievements; in many subjects gets no grades at all, or fails; level of Hebrew greatly below vital minimum; poor language skills in any language; has no mastery of any of the two languages (mother tongue and Hebrew), no clear distinction between them, mixes words from both languages in same sentence.

NETWORKS: none-participation in any extracurricular school activity, e.g student-committees, trips, parties, ceremonies; no friends, has nobody to play with in the afternoon, nobody to talk to in school recesses; passive, doesn't participate in classroom discussions; doesn't visit others, doesn't invite peers to visit him at home doesn't participate in birthday parties of classmates ; unable to follow what is being said in the classroom during lessons; everybody speaks too fast for his level of Hebrew; relies heavily on guessing what goes on, often having to act in a context which for him is heavily saturated with uncertainty.

RULES : "different" personal appearance (cloths, hairstyle, makeup..) ; does not prepare homework; often late to school and/or late to return to classroom after recesses; frequently absent from school; stays home for longer than doctor's orders after illness; keeps promises within his own group, but not to outsiders; passive wastage of leisure; truancy and dropout; violent behavior; vandalism; juvenile delinquency, police record; drug abuse, alcoholism .

Adler & Sever (1994a) argue that youngsters with dual marginality, namely those whose marginality is both contextual and personal, are at the highest risk of belonging to the margins of society as adults; they call this group TAG-1, i.e the 1st Target Group. This should gain special attention in the case of immigrant youngsters.

For improving schools' effectiveness in immigrant integration in Israel, a new model has been developed - *Intercultural Bridgemaking*:

2 Intercultural Bridgemaking

The role of the intercultural bridgemaker in the school has two facets (Sever 1997b):

One facet consists of small-scale interventions, on an individual level. Its purpose is to tighten loose ties in the *schooling triangle*, i.e the triangle of immigrant child - immigrant family -teacher; "*to be the glue between them all*", in the words of one bridgemaker.

The bridgemaker's role in this facet includes: (a) making home visits, (b) re-empowering immigrant parents in parental role, (c) intercultural translation, (d) inducing positive dynamics within the *schooling-triangle* (i.e interactions between immigrant parent and child; between teacher and immigrant student; and between teacher and immigrant parent), (e) escorting immigrant child and family during first days at school, (f) resource-pooling for TAG-1 (high risk) students, (g) using the *assets* strategy: capitalizing on strengths, nurturing buds of success; etc.

The other facet of the bridgemaking consists of system-based interventions, in the school's climate and organizational culture. It includes: (a) serving as a role model for the immigrant children and their parents, and a change-agent for the veteran Israeli staff, students and parents , (b) being available as a resource-person of intercultural information and knowledge both for immigrant students and their familie- about the Israeli reality) as well as for the veteran Israeli staff and students at school (about the immigrants' culture of origin and the many unique dimensions of the status of immigrant), (c) maintaining immigrants' cultural-identity continuity , (d) reducing status asymmetry between immigrants and veteran Israelis, (e) publicly legitimizing the use of mother-tongue by immigrants, (f) enhancing acknowledgement of personal past and family history, (g) using contents and materials from immigrants' culture of origin in classroom teaching, (h) mediating in cultural-based conflicts , (i) designing and performing special activities with immigrant students and parents, etc.

Intercultural bridgemaking has already been experimentally implemented in Israel. A comprehansive quality-assurance system (QAS) has been established and operated by a small R&D unit (named YES) of the Hebrew University; this was done in a small town with a high proportion of immigrants from CIS and from Ethiopia. Here 25 bridgemakers (8 immigrants from Ethiopia and the others immigrants from CIS) were selected, trained , employed and closely followed by group-supervision and individual tutoring.

Preliminary results show that this is a highly effective model of intervention.

For example, data about TAG-1 rates in 13 schools show that one of every six immigrant students (17%) has been removed from the list of at-risk students within one year of the bridgemaker's work in these schools. The data are even more impressive if we compare the size of TAG-1 at the beginning and the end of this one school-year: about half of the immigrant students who had been identifies as being at high-risk when the school year started, were no longer considered to be at high risk by the end of this school year: 51% at junior high school, 47% in elementary state[1] schools and 35% in elementary state-religious schools (Sever, 1997b).

3 Selection of the bridgemakers

The bridgemakers were carefully selected, via an Assessment Center, so that they could serve as role-models for the immigrant youngsters and their families on the one hand; and as change-agents for the veteran Israeli students, parents and educational staff, on the other hand. They were immigrants from the recent wave of immigration, who neither wished to assimilate nor to stay secluded in a separate group; they were able to add new dimensions to their identity, without abandoning their original one. In other words, they were models of synthesis.

An Assessment Center is a selection method based on a battery of tools applied in a group setting. It is widely used for the selection of candidates for managerial posts (sf Finkle 1976) and is considered to possess high validity (Gangler et al 1987) .

In our project a special adjustment of this method has been developed, in order to cope with the very problematic task of selecting candidates from cultures different from that of the project's staff, for a role that did not exist until that time...

Many versions of Assessment Centers exist; they usually have in common the following major characteristics: (1) they are group-based: the candidates are tested in a group-setting (12 is the optimal size) and are evaluated by a group of evaluators (one vs every 2 or 3 candidates); (2) performance-testing: the candidates are evaluated according to their performance in simulations of actual job tasks (rather than in paper-and-pencil tests); (3) task variability: the Assessment Center is comprised of a variety of tasks, that are different from each other in structure, content and kind of interactions. This gives each candidate multiple opportunities to within less than one year of appropriate intervention

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[1] In Israel, most immigrants in state schools are from CIS, and in state-religious schools - from Ethiopia.

Our version of the Assessment Center took 5-6 hours and included the following components:

⇒ ***getting aquainted***: the cadidates engage in a free-talk aquaintance circle (i.e. a small group of 3-4); every 5 minutes the composition of each circle is changed by moving one candidate to another group. This has two pruposes: one - eventually everybody gets to meet everybody else; and two - everyone finds himself once in the position of a novice in a new group, and several times as a veteran member of a group that gets new members time after time.

⇒ ***one hectic day*** - priorities within the bridgemaker's role. This component has two phases: an individual decision making assignment, followed by a leaderless discussion in the full assembly . For example -

Phase I: each candidate gets the following assignment:

You are the school's bridgemaker. Upon arriving at school one morning, you find youself fludded with tasks and problems you're required to handle.(Please read the following list carefully and decide what are you going to do first, what next and so on until the last; what - if anything - are you not going to handle, and how will you explain this to the school's principal?):

- *In the corridor you notice two immigrant students wandering about aimlessly, though class has already begun. They claim that the phisical training teacher sent them away from the sports hall because they came without appropriate clothing.*
- *Two teachers ask you to translate their letters into Russian. One is adressed to parents of the 10th grade, requesting them to send payments for a field-trip; the other is a note to a new immigrant student's parents inviting them to meet his hometeacher.*

- *A student comes running, sent by a teacher of the 11th grade : would you please come urgently - three new immigrants are having a fight in the classroom , and she is unable to control them.*
- *On your desk you find a note from the principal, asking you to come to his office to discuss with him ways to improve the linkage between the school and the immigrant parents, and to deal with inter-ethnic tensions at school.*
- *An immigrant 7th grade student girl is crying in the schoolyard: some of the older boys have taken away her lunch - again.*
- *Yesterday you visited a family of a new immigrant student and heard bitter complaints about the teachers attitude towards their daughter. Among other things, he scolds her whenever she tries to speak her mother-tongue with other immigrant students in the classroom. The mother asked that you talk to the teacher first thing today.*
- *The telephone rings; it's the principal's secretary , asking you to replace one of the teachers who got sick and there is nobody else to fill-in for her today.*

Phase II - a group assignment: *to discuss the priorities each of you has decided upon individually in the first phase, and reach an agreement about the following issues:*

1. *from the above list, choose one problem or task that you would definitely take care of.*
2. *choose one problem or task that you would refrain from doing, and agree upon how to explain this to the concerned party.*

⇒ ***my first homecall*** - a group discussion of job-related issues such as:

What are the basic rules a bridgemaker must follow when making a homecall? What should he do and what should he refrain from doing? What problems can be expected to arise when making a homecall? This discussion is done concomittantly in two ethnically heterogeneos sub-groups

⇒ ***bridgemaker's role-set***: role-playing within authentic simulations of interactions that bridgemakers encounter in real-life . This role-playing is done in ethnically homogenic sub-groups, so that a candidate is not hindered from choosing to use his mother-tongue when this is naturally called-for, e.g. in an interaction between bridgemaker and immigrant parent . There are two different simulations, each including 2-3 scenes.Every candidate finally participates in 3-4 scenes, so he gets to play (in different scenes) both the bridgemaker and other partners in his role-set, e.g a teacher, principal, immigrant student, immigrant parent etc. The following is an example of one role play (with 2 scenes) for immigrants from Ethiopia :

The story -

The bridgemaker is getting the impression that the 7th grade hometeacher in his school dislikes immigrant students from Ethiopia. There are six immigrant students in her classroom and they all sit in the back of the classroom - because they're tall, she says. She ignores them when homework is read aloud , and rarely writes any comments in their test papers. The bridgemaker hears about it while talking with one of these students, whose grades are very low. The student explains that there is no point in making an effrot because the teacher never notices anyhow. The bridgemaker tries to tald with the teacher ; she says there is nothing she can do, because of the Ethiopian students' low ability and the fact that their families are unable to help them at home with their studies. The immigrant parents hear the story from the students and are furious with the teacher and with the school. The bridgemaker initiates a meeting with the principal and the teacher.

Two scenes are role-played after the candidates are familiarised with this story (3 players in each):

Scene I -The Meeting between the bridgemaker, the teacher and the school principal

Scene II - Bridgemaker talks with the immigrant student and his mother .

This specially designed Assessment Center was applied seven times in the 1995/96 academic year. 72 candidates participated, all new immigrants: 25 from Ethiopia and 47 from CIS. 30 of the cadndidates were found suitable for the role: 10 from Ethiopia and 20 from CIS.

TRAINING AND SUPERVISION

The bridgemakers in the above mention town were closely followed by a training staff of 6 role takers: 2 trainers/supervisors (professionals) and 4 personal tutors (semi-professionals) - one from Ethiopia and 3 from CIS . The line of supervision was actually even longer than this, since the local supervisors themselves were regularly supervised by senior members of YES.

The bridgemakers got regular training and supervision in several forms. Individually once a week from their personal tutor (a former bridgemaker) ; and every week or so, they got group supervision together with other bridgemakers . Group supervision had two patterns: One week the groups were ethnicly homogenous (i.e. the bridgemaker s were divided into two groups - one with all the bridgemakers from Ethiopia , the other group - from CIS) which ment **professional heterogenity**, because bridgemaker s working in high schools, junior high schools, elementary schools and kindergartens - all set together in their **ethnically homogenic** group. The next week the groups were constructed according to school-levels: one group of bridgemakers who work in post elementary schools, one of bridgemaker s who work in elementary schools, and a third group of bridgemaker s who work in kindergartens. This **professionally homogenic** pattern was **ethnically heterogenic**, becaus bridgemaker s from both origins sat together in each group, according to their work-place. The third week followed the pattern of the first week, and so on.

This combination of patterns is designed to sustain concommitantly (a) continuity of uniquenes and cultural-ethnic identity, and (b) cooperation and common purpose of bridgemakers from different ethnic groups (note that ethnic heterogenity was not achieved by creating casually mixed groups, but by establishing groups according to a professional common denominator: the school-level in which each of them worked)

The personal tutors participated in these groups, following the same allocation principles: according to ethnic origin one week, according to school level the other week.

In conclusion

If the high potential of the role of Bridgemaking is to be realized, it is not enough just to employ bridgemakers. Some schools and organisations had tried it and were badly dissappointed. Quality assurance is essential in this realm. It includes mainly the selection mechanizms for this role, basic training before starting their work, further intensive on-the-job training by a combination of individual tutoring and group supervision. It also includes other elements such as maintaining regular contact and support of the QAS staff with the principals of the schools in which the bridgemakers are employed , but this is beyond the scope of this paper.

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INSTITUTIONAL MANAGEMENT BY COMPETENCIES AND PARTNERSHIPS
QUALITY ASSURANCE OF LEARNING, THE CORE PROCESS IN ESPOO-VANTAA POLYTECHNIC

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Introduction

Espoo-Vantaa Polytechnic has several regional units in the southern part of Finland, in the Province of Uusimaa. This part of Finland is the leading center of industry, services and higher education in our country, also in an international framework. The success of Uusimaa means the success of the whole country.

The business life in Uusimaa has to be constantly alert to meet the impacts of internationalisation and the globalising economy which are particularly strong in this region. In this constant change the multi-disciplinary Espoo-Vantaa Polytechnic is a significant provider and reformer of higher education. The degree programs have to correspond to the structure of the economic life in our region. The excellent location provides a rich supply of students and the comprehensive networks with universities and other instititutions make it possible to have top staff development programs and joint research and development projects.

The chosen key principles in the management of Espoo-Vantaa are networking and partnerships which ensure high quality of activities and processes. The main tools in our management strategy are visions and knowledge management through development of competencies and management of processes by partnerships.

Why networking

In the Finnish society - not least within education - there is a lively discussion about the information society and its requirements on different institutions. One of the basic trends in information society is the global network economy where companies and organisations are active in an international setting through ownership or alliances. Finland as a state and an economical entity is part of Europe and its affiliations. In the information society telecommunication and information technology are in a more and more central role. Information technology (IT) makes it possible for a network economy to function. It also makes communication between individuals and organisations in an electric format a daily routine.

The economical recession of the first half of 1990s, together with technical and political changes made themselves felt even within the service functions of societies, where there has been a shift-over from management through norms and regulations into a more market-oriented management. Networking is the approach that should be considered when looking for the flexibility which is necessary in market oriented management.

At Espoo-Vantaa Polytechnic, networking is seen as an optimal way to ensure the high quality of learning, i.e. the core process in education. The diverse players within a network bring their best knowledge and expertise into the use of the whole network. The polytechnic will concentrate on managing the processes of learning and teaching, depending on the service network of its partners in other fields of competence. In a network polytechnic the student builds on an individual study path with real opportunities to create new combinations of learning and skills. The goal is a multi-dimensional work and learning environment, in the case of Espoo-Vantaa Polytechnic, a virtual polytechnic.

New challenges for institutional management, elements of management in a network

Instead of administrative processess, management through networks is concentrated on the management of the core process in an educational institution, the learning process. This will happen through knowledge management and interaction. In a network organization the manager can only obtain authority through his or her shown competences.

The activities in a network are steered through visions which are based on the shared values of the work community, and a tempting and challenging vision of the future. In our polytechnic we see our future in the following way:

> "In the year 2001 Espoo-Vantaa Polytechnic will be a truly multi-disciplinary, internationally oriented higher education institution with some 10.000 students and a network of campuses covering the whole province. The education provision covers all central industries in the capital province, i.e. business administration, environmental and rural development, health care and social services, hospitality and technique. By the turn of the millennium, Espoo-Vantaa will belong to the major European tertiary institutions by its size and as a sought-after place for study and work. The degree programs are of high quality producing new knowhow into the Finnish and international environment. The students will develop into independent professionals who work in multi-cultural teams of experts. The employability rate is high. The Espoo-Vantaa staff finds their polytechnic a constantly developing, energetic and open working environment."

The basic requirement for the management of a network organization is an in-depth understanding of the development of the information society. In a network it is crucial to manage knowledge, i.e. knowledge management which means turning the knowledge and skills in an organization into "business" outcomes. It involves focusing on the potential of the entire organization and having the capability to harness it. In other words, it is not just technology, finance or mere facts and data. Social interaction skills and the ability to work with other people to make things change are becoming more and more important.

In knowledge management the question is about managing people and culture, processes and the actual knowledge management architecture, information systems.

Managing people and culture

In a network it is of vital importance to adopt an expert mode of action where instead of set procedures and rules, the tacit knowledge of the chosen field of expertise is utilised. As an organization polytechnic is based on competencies. There the managing of people is about management and development of competencies by visions and strategies. At Espoo-Vantaa we have to find the competencies which are needed to realize our visions, putting into full use the competencies we already have, as well as analyzing which competencies we can and should develop among ourselves and which competencies we have to get from outside the polytechnic.

What kind of competencies do we need at Espoo-Vantaa Polytehcnic?

We see the network competencies as following: basic and advanced professional knowledge and skills, social skills, communication skills and individual skills. In addition to knowledge and skills we consider attitudes, personal values and personal networks as important.

The success of an institution in a network can be ensured by competencies that are unique, that you cannot find in any other institution. When developing the competencies of an organization, one has to be sure that the competences can be found in the structures and processes, so they will not disappear with people. We have to be able to add to the competencies. Sharing and using knowledge is the way to accumulating it.

Knowledge management puts great emphasis on the competences of organisations, on how they are utilized and accumulated from day to day. Know-how, knowledge and expertise are abstract concepts that are difficult to measure, however, their importance is far greater than that of any material asset. This is the reason why we focus our interests on reporting and evaluating intellectual capital instead of material assets and financial fluctuations. Competence balance sheets are one way to evaluate the state and development of the intellectual capital.

Managing processes by partnerships

The management of Espoo-Vantaa concentrates on managing the processes of learning and teaching, depending in other areas of competence on the service network of its partners. The polytechnic has partners in the strategic training and evaluation of its management, in ensuring the physical prerequisites of action, such as the facilities, basic information technology and funding; in creating the visual image and corporate communication, as well as administrative and material support services. Partners are there to bring their best knowledge and expertise into the use of the polytechnic.

Action in a network organisation is supported and developed through its partners. A partner is chosen so as to guarantee the quality of the chain of services through its special competences. Both parties are obliged to constantly develop their action processes. In partnerships there is a shift-over from subcontracts to equal partnerships. Partners are chosen through competions. However, the decisive factor in the choice of a partner is a compatibility of values.

Mutual trust between partners is a crucial factor. In a partnership both parties win. From its partnerships, Espoo-Vantaa Polytechnic gets a flat and flexible administration and is released from running the support activities.

Knowledge management architecture, information systems
A partner in IT infrastructure

Espoo-Vantaa Polytechnic entered a year ago into a partnership with ICL Data. ICL Data is a global company producing solutions to the total management of IT infrastructure. As our partner ICL took the resbonsibility of the polytecnhic's IT infrasructure with all PC computers, client servers, software, and telecommunications. The service includes also a call center or help desk and support functions to users, staff training in IT tehnology and some expert services.

The total package of services in the IT infrastructure is called "Infra-care". Its impact on the polytechnic's activities are numerous.When the IT infrastructure had been taken on to a high level with a partner with global compentences, the polytechnic management was free to take on the strategic issues in knowledge management, such as how to use IT and information networks in teaching and learning. Moreover, knowledge management is used in order to create a common approach to identifying, managing and sharing stocks of information. These can be databases, documents, modes of actions or instructions, as well as documented tacit knowledge from the employees or students. To create the knowledge management architecture, we have to have a strategy for the management of information, data security, classifications and structures for information, data systems and IT infrastructure.

Summary

In the next century, the success of institutions and organizations will be based on their unique, outstanding competences. At Espoo–Vantaa Polytechnic we believe that we will find our place among the higher education institutions in Europe. We will go on developing our competences, while we trust our partners for ensuring the ", Romania, 9-14 June, pp. 17 – 21.

VO-TECH EDUCATION REFORM IN TECH PREP:
What has been accomplished? What remains to be accomplished?

by
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For centuries, various forms of vocational/technical education have served students, businesses, and industries in many countries throughout the world. Mentoring, internships, and apprenticeships were among the early forms of vocational education, particularly in Europe. In this century, vocational education became more institutionalized in secondary education through training centers, vocational high schools, and technical institutes. Advanced skills, frequently called technical education, were provided in polytechnics and community colleges (in the United States and Canada).

Gradually in many countries, several factors have contributed to real or perceived ineffectiveness in vocational education delivery.

A decline in emphasis on mathematics and science as a true foundation for the technologies.

A lack of connectedness between head skills and hand skills.

A separation or lack of real cooperation between the vocational schools and the businesses and industries who hire the vocational education graduates.

A discontinuity in curriculum between secondary and postsecondary vo-tech education.

The disintegration of a "core" of required vo-tech courses for a particular career major at the secondary level.

A move of the curriculum away from cognitive skills to strictly "learning the tasks."

Inability to respond to demands by global employers for workers who can use computers, solve problems, work cooperatively in teams, use information effectively, and "learn-to-learn" new knowledge and skills.

The move to substantially reform vocational education in the United States began in 1984 when Dale Parnell[1] defined the Tech Prep/Associate Degree movement, usually referred to as Tech Prep. Tech Prep was further enhanced in the 1980's and 1990's by Applied Academics (secondary math and science taught in the context of vo-tech applications). In 1991, the federal vo-tech legislation included funding for Tech Prep, making it a national priority for the last seven years. School-to-Work initiatives in the United States since 1984 have largely built upon Tech Prep principles. This year, federal legislation for vo-tech is in process that should reauthorize Tech Prep priorities for another five to six years.

To date, over four million students have been involved in Tech Prep initiatives. Some Tech Prep programs have made significant progress in reforming vocational education; others have progressed very slowly. Overall, Tech Prep has made improvements in four areas:

Secondary/Postsecondary Articulations

Secondary and postsecondary educators within a community (consortium) cooperated to restructure their course offerings so that they were compatible, aligned, and progressive. Seamless articulation agreements were written to eliminate gaps and duplication as students progressed from high school to community college, and advanced standing was given to high school courses with content and expected outcomes comparable to those at community college. Career-oriented high school students were encouraged to continue their studies in advanced programs at community colleges.

This concept of true secondary-postsecondary articulation has come to fruition in many communities throughout our country. Since the passage of the Tech Prep initiative in the Perkins legislation of 1990, over 900 Tech Prep consortia of community college/high school/business partnerships have been formed to cooperate in building this new system.

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[1] Dale Parnell, *Neglected Majority* (Washington, D.C.: Community College Press, 1985).

> *An example of such a partnership is the Miami Valley Tech Prep Consortium in Dayton, Ohio, where Sinclair Community College works with 64 high schools and 100 businesses to redesign completely articulated career-based programs in five fields. Every student graduating from a Tech Prep program in a participating high school who is admitted to Sinclair College to pursue advanced technical studies is guaranteed a scholarship—from funds provided by local businesses and industries.*

Articulation has also occurred between academic and vocational faculty within institutions to close the gap and develop relationships between academic and vocational education. This practice is frequently called "integration," or interdisciplinary learning.

Strengthen academics for all students and use academics as a foundation for technical curriculum.

The target high school student population for Tech Prep in the early years was the neglected majority—the middle 50 percent (or 60 percent) of students who, by the ninth grade, had demonstrated poor achievement in academics and had been placed either in voc-ed classes or in the general track, a pathway to nowhere. It was painfully obvious that, unless the academic achievement of the neglected majority could be raised in areas such as mathematics, science, and communication (English), other efforts in this reform movement would be only marginally effective. Accordingly, the applied academics initiative began with the understanding that these students were not abstract learners but, rather, applied, or "hands-on," learners.

> *Beginning in 1984, the state directors of vocational education formed a consortium and commissioned the Center for Occupational Research and Development (CORD) and the Agency for Instructional Technology (AIT) to develop and test curriculum materials in applied mathematics, principles of technology (physics), applied communication, and applications of biology and chemistry. Using Tech Prep funds, vocational leaders in 49 states joined with*

> *mathematics and science leadership to train over 30,000 teachers and equip laboratories to implement courses using these materials. Independent evaluations of student achievement in applied academics conducted by Iowa State University, Auburn University, and the University of Georgia,[2] showed significant gains in student achievement via applied academics. High expectations of academic achievement for the neglected majority are now the norm in Tech Prep programs. Over five million students have benefited from these courses.*
>
> *Subsequently, course materials in applied economics (Junior Achievement) and applied humanities (Seattle Community College/Boeing) were developed and tested.*

Efforts to change the technical curriculum to build in a stronger academic foundation are not presently as cohesive or widespread as applied academics usage. However, by 1993, the definition of Tech Prep had changed from a 2+2 (high school/postsecondary) program to a 4+2 program. By including all four years of high school in the scope of Tech Prep, time was allocated in the curriculum to raise the academics (grades 9-10) and build the technical curricula on them (grades 11-12).

In *Opening Minds, Opening Doors* (1993), Hull laid out a conceptual framework for the new curriculum, which he labeled, "build a foundation, build on the foundation." Curriculum changes toward this model began, with variations from state to state.

Prepare students for world-class careers.

Findings from several studies and initiatives, independent of Tech Prep, supported this goal.

> America's Choice: High Skills or Low Wages? This study (1990) gave evidence that many of the low-skill jobs in America were being successfully exported to workers in developing countries, where wages were three to ten times lower than for similar work in the United States. The message delivered was "U.S. workers

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[2] Dan Hull, *Opening Minds, Opening Doors* (Waco, Texas: CORD, 1993), pp 88-94.

must develop high skills to obtain and keep the higher paying jobs to which they are accustomed."[3]

The National Skill Standards Act of 1994.[4] This joint effort by the U.S. Departments of Education, Labor, and Commerce attempted to define the requirements for critical jobs by forming coalitions of business and industry groups.

The 1991 Secretary's Commission on Achieving Necessary Skills (SCANS) Project. This was a successful attempt to identify the broad skills employers want from workers in most fields. Two categories of skills other than basic competencies like reading, writing, and arithmetic, were identified: personal qualities, and thinking skills. The first includes the ability to relate to others in and out of the classroom as well as to develop individual responsibility and self-esteem. The second includes the ability to think and solve problems in an entire system, rather than working on isolated tasks and problems.

Efforts by Tech Prep practitioners to identify and prepare students for new careers have led schools to build stronger relationships with local employers and to experiment with worksite learning experiences and project-based learning. These provide students with some of the SCANS competencies that are not effectively taught in traditional school environments.

Since 1989, The Boeing Company in Seattle, Washington, has invested over $6 million in Tech Prep programs in Seattle high schools and community colleges. Its purpose is to influence and support educators to provide Tech Prep program graduates who could become Boeing's advanced skilled manufacturing workers of the future. Boeing also

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[3] National Center on Education and the Economy, *America's Choice: High Skills or Low Wages* (Rochester, New York, 1990).

[4] The National Skill Standards board is composed of 28 members, one of whom is the Secretary of Labor, one the Secretary of Education, one the Secretary of Commerce, another the chairperson of the National Education Standards and Improvement Council. An additional eight members are representatives of business; another eight are representatives of organized labor; two are neutral human resource professionals; and six are representatives of educational institutions, community-based organizations, state and local governments, and nongovernmental organizations.

provides worksite learning experiences for Tech Prep students and faculty.

In 1996, Boeing hired the first graduates from the 4+2 Tech Prep programs in Seattle. In preemployment interview tests, the Tech Prep graduates scored an average of 96. Scores for non-Tech Prep applicants averaged 65.

Keep Educational and Career Options Open.

A hallmark of Tech Prep is its efforts to eliminate tracking in high school. Neither parents, students, nor employers are interested in high school students being narrowly focused into job training for a specific occupation. Granted, some European countries have shown short-term efficiencies in workforce development by their use of a dual-track system in which vocational students are highly specialized through apprenticeships in the early years of secondary education. But, in the United States, we are willing to take a chance on lower efficiency in educational training in order to keep student choices open. The possible near-term shortfall from this practice is more than compensated for by the Tech Prep students who have taken the opportunity to move into higher education and prepare for advanced skill careers. The elimination of tracking has helped to remove a stigma on vo-tech education as being a "dead end."

This does not mean that Tech Prep high school students are not encouraged to explore careers and select broad career fields to study. On the contrary, exploration and selection of broad career majors by high school students not only constitute sound education, but are also effective ways to retain student interest in school. But the curriculum can be restructured in the early secondary grades so that a core of courses common to a variety of occupations within a career major can be taught.

The most important element of Tech Prep in keeping opportunities open is its guarantee of a strong, useful academic foundation in mathematics, science, and communication skills. This type of academic core gives students the ability to learn—to learn more academics, and to learn new and different technical skills that build on the academics. The nature of work in today's rapidly changing environment implies that jobs will constantly require employees to gain new education and training to be successful in their careers. To advance in a career, a person will often need to reenter a higher education institution for additional course work or a degree. The credential most needed to reenter higher education is the demonstration of proficiency in academic fields.

The New Vision

Tech Prep is now a teenager. Although it has not matured uniformly within institutions or among different partnerships (consortia), it has certainly grown in understanding and very strong advocacy; and it has demonstrated that certain of its elements have a significant value—not only for the reform of vocational education, but for all of education. A new, broader vision for Tech Prep is emerging. Several states and local consortia have already begun to formally redefine Tech Prep and have developed plans and strategies to realize this new vision.

Informally, many states and consortia are adding new initiatives. They are discovering ways to broaden and improve Tech Prep—not just to improve vocational education, but to improve the entire educational system. As we look toward the next five to seven years, a new vision of Tech Prep is emerging: *To meet high academic standards, and to provide the best teaching and learning experiences schools can offer to prepare students for life in the real world of work.*

In their book *Redesigning Education*, Wilson and Davis speak of the need to reconstruct the educational process by building a cohesive system around demonstrated learning-improvement strategies and working to perfect the system. They suggest doing this through an iterative process, continuously adding new strategies and dropping off those that are neither effective nor compatible. [5] This is precisely what Tech Prep is all about: continuously improving the preparation of our youth for lifelong careers. To achieve this goal, Tech Prep practitioners must have the foresight and courage to maintain and improve effective practices while recognizing and removing weaknesses.

Broad, effective institutional changes that persist longer than three or four years do not succeed by chance. They are the results of leadership and a clear vision that is compelling enough to inspire commitment and action at the grassroots level; in education, this includes classroom teachers, administrators, employers and other community leaders, and family.

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[5] Kenneth G. Wilson and Bennett Daviss, *Redesigning Education* (New York: Henry Holt and Co., 1994).

The process of change begins with pioneers who start new initiatives in the pursuit of goals that support their vision. It matures when these successful initiatives are incorporated into a new system, a framework upon which related and supportive initiatives can be proposed, tested, and, when successful, incorporated.

Wilson and Daviss illustrate this process in the quest of human flight:

> For the early few who perfected the airplane, the vision was powered human flight; for the industry they created, the enduring vision has been to carry more people and cargo farther, faster, safer, and more cheaply. ... those now working for quantum changes in our schools occupy the position in which aircraft builders found themselves before the Wrights flew at Kitty Hawk; they've seen enticing glimpses of the future, but no one has yet assembled those glimpses into a complete and compelling picture. ...The Wrights' flight at Kitty Hawk marks the beginning of powered human flight, not because Orville and Wilbur invented the airplane; they didn't. Others had been aloft before them; others had developed the internal-combustion engine, the curved upper surface and flat bottom of the wing, elevator flaps to control climbs and dives, ailerons along a wing's trailing edge to aid steering, and the other parts needed to get a machine into the air. The Wrights' breakthrough was to integrate these different parts, test them in a wind tunnel under real-world conditions, and assemble them into a single, coordinated system that remained stable in the sky—and thus finally prove that controlled, sustained human flight was possible. The brothers' plane was the first to combine several different innovations into a single, workable system that demonstrated that the problems that had stymied the vision of powered human flight could be solved."

The new vision for Tech Prep is to take the successful new innovations and place them all in one, coherent system. The four major goals that we will seek in continuing the reform of vo-tech education through Tech Prep are:

1. Design the New Curriculum Structure

   Use the 4+2 advanced skills Tech Prep model.
   Incorporate academic, skill, and employability standards.
   Develop core curricula structures around career clusters.
   Provide a "career pathway" for all students.
   Assess students achievement by performance and portfolios.
   Ensure that pathways to employment and/or higher education are open for all students.

2. Break the Mold in Teaching and Learning

   Ensure that academic courses are taught in context and that teachers are comfortable with their new role as facilitators of knowledge acquisition rather than knowledge deliverers.
   Ensure that teachers of all subjects understand the vital role they play in helping implement this education reform.
   Ensure that students are involved in teaching as well as learning.
   Cultivate contextual teaching practices through professional development.
   Become partners with university schools of education to help them include contextual learning in preservice education.
   Incorporate project-based learning.
   Use telecommunication and technology in the classroom.

3. Establish a New Role for Employers in Education

   Insist on excellence in meeting rigorous academic and technical standards.
   Provide worksite experiences for students and teachers.
   Provide mentors and internships for teachers and learners.

4. Family and Community Support Tech Prep Programs and Students

   Help students discover their talents and career interests.
   Help students explore the workplace in communities.
   Support individual learning styles and careers.
   Infuse contextual learning practices in higher education.

____________Taken from: **Tech Prep: The Next Generation** Hull,D.M., and J.D.H. Grevelle, 1998, CORD

ENHANCING THE QUALITY OF STUDENT'S EXPERIENCE IN A FRANCHISED COURSE -- THE CASE OF A UMIST/CIB DUAL QUALIFICATION COURSE

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ABSTRACT

Hong Kong is one of the world's largest banking centres. The demand on professional education in banking has always been high. In 1996, the Chartered Institute of Bank and the University of Manchester Institute of Science and Technology in UK formed a partnership to deliver a dual professional and academic qualification. To obtain the qualifications, students are required to attend courses with one of the franchised tuition centres or study on distance learning basis. City University of Hong Kong is the first overseas franchised centre and it is planned to franchise the course to more overseas centres. As the students' needs, the economic and socio-cultural environment of Hong Kong are very different from that of UK, it is therefore the aims of this paper to find out and suggest ways to both the franchiser and franchisee to enhance the quality of students' experience in such a course.

INTRODUCTION

Hong Kong (HK) is one of the world's largest banking centres, the demand for banking education and training has always been high. As at the year 1997, there were 165,000 people working in the financial sector, which accounted for 5.3%[1] of the total labour force. Yet, this 5.3% labour force contributes to around 25% of the total gross domestic product of HK.

Despite the significant contribution of this work force, most of the banking and financial services education offered is on sub-degree level, i.e. diploma to higher diploma level. Only since this academic year, there is one full-time and one part-time degree courses in banking. Hence, there is a great demand, especially from those people at work, for further and profession education in banking.

The Franchised Course

In the past, HK people in the banking field pursue professional knowledge through joining the professional examination of The Chartered Institute of Bankers (CIB) in the United Kingdom (UK). Members acquired the professional knowledge mainly on a self-study basis. In October 1996, the CIB underwent a radical change of its qualification structure. It formed a partnership with the University of Manchester Institute of Science and Technology (UMIST) to deliver a dual professional & academic qualification. That means, on successful completion of the programme, students will be award the Associateship of CIB as well as BSc of UMIST. All students are now required to attend courses with one of the franchised tuition centres or study on a distance learning basis.

In the partnership, the CIB, as the professional body, is responsible for providing professional services and awarding professional title to its members. In addition, CIB is responsible, in conjunction with the UMIST for the design of syllabus and the setting and marking of examinations. On the other hand, UMIST is the degree awarding body as well as the examining body. It is also responsible for ensuring the quality of the course provided by the franchised tuition centres. At present, there are 10 franchised tuition centres all over UK and 2 overseas centres.

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[1] Census & Statistics Department, Hong Kong, *Hong Kong Annual Digest of Statistics 1997*

Like other franchised courses, the whole course is designed by UMIST and CIB. Yet, it is delivered in and by the staff of City University of Hong Kong (CityU). Overall responsibility for the quality of the course, the admission and the assessment of the students resides with the franchising institutions. The franchised institution is only responsible for the teaching of the course. However, it is now generally recognised that quality should be assured in the first place by the people who actually produce the service. The emphasis of the franchising institutions on quality of the course is therefore to ensure that the franchised institution has a well-established quality assurance system in place.

1 OBJECTIVES

The restructuring is welcome by people in Hong Kong, for it enable students to obtain dual qualification at one time. CityU was the first overseas franchisee. As the students' needs, the economic and socio-cultural environment of Hong Kong are very different from that of UK, it is therefore the aims of this study to find out the ways to enhance the quality of students' experience in such a franchised course.

More specifically, the objectives of the study are:

1. To outline the students profile and identify their expectations on the course.
2. To identify the difficulties that students faced during difference phases of the course.
3. To identify the problems on administering the course.
4. To suggest ways to enhance the quality of students' experience in the course.

2 METHODOLOGY

The study was mainly based on the information obtained from three main approaches. Student opinions were first gathered by a questionnaire survey and then follow up by a group interview with 5 students.

Franchisee's opinion was obtained from a group interview with 5 administrative staff.

The student survey was carried out in late May 98. A total of 120 questionnaires were distributed to all the students taking the programme. 82 of them were returned and found useful. The information solicited from the survey was divided into three main areas. They were the students' profile, their expectation on the course, the problems that had encountered in taking the courses. Students' opinion was measured on a 5-point scale, where 5 indicated the most important and 1 indicated the least important.

A group interview with 5 volunteer students from various classes was conducted in early June. The interview aimed at exploring further information behind some problems detected from the survey.

Another group interview with 5 administrative staff of the franchisee was conducted in late May. The aims of the interview were to identify the problem areas in administering the course and the ways to improve the quality of the students' experience.

FINDINGS

Student Profile

The minimum academic qualification requirement of the programme is CIB banking certificate or its equivalent. In addition to meeting the minimum requirement, 26% of the respondents process bachelor or above qualification. As the programme finally led to a bachelor qualification as well as a professional qualification, the high proportion of degree holders taking the programme indicated that people in the field valued the professional qualification. The facts that 42% of the respondents had been working over 10 years and 33% of them were bank managers further proven this preposition. The detail profile of the respondents is shown in Table 1.

Table 1 Student Profile

1.	**Academic Qualification**	
	Associate, Bachelor or above	26%
	Higher Diploma	38%
	CIB Certificate	36%
2.	**Working Experience**	
	Less than 2 years	22%
	2 – 5 years	11%
	5 – 10 years	25%
	Over 10 years	42%
3.	**Position**	
	Manager or above	33%
	Officer or below	64%

3 Reasons for Joining the Programme

Over 99% of the respondents knew that they could sit for the same examination by studying on a distance learning mode at a lower price. Yet they still preferred to join the course. The main reasons, in descending order of importance, were: the reputation of CityU, lecturer support, learning facilities provided, flexible mode of studying and peer support (Table 2).

Table 2 Reasons for Joining the Programme

Reasons	Importance
Reputation of CityU	3.9
Lecturer support	3.9
Peer support	2.8
Facilities provided, e.g. library, IT facilities	3.3
Flexible mode of Study	3.1

Reputation of CityU

Students agreed that the two qualification awarding institutions are distinct organisations. Yet, one of main reasons for them to join the franchised course was that it was run locally by a reputable institution. This gave students confidence that the actual delivery of the course would be of high quality.

Lecturer Support

Another main reason for the students to join the franchised course rather then study on distance learning was lecturer support. Apart from having a mean importance of 3.9, the factor of lecturer support had a strong correlation (0.326) with the students' working experience. This was contrary to a common belief that the more mature students are, the less they rely on teachers. In the group interview, students explained that the longer they were away from school, the more assistance they needed from lecturers to refresh them to academic work.

Peer Support

Among the five reasons, peer support was regarded the least important one. Again, this was contrary to the common belief that mature students value peer support more than younger students. Students expressed that their work and family engagements left them very little time to study with peer.

Facilities Provided

Students found this an important reason for joining the franchised course. The learning facilities of CityU were well funded by the government. The facilities that students could enjoy were certainly far better than studying on distant learning mode with minimal local support.

Flexible Mode of Study

Flexible mode of study was important for people working in banking field, as their works were demanding. The franchised course only required students to attend one 3-hour session per week. The flexible mode would enable students to cope with both work and study.

4 Students' Main Concerns

Students' main concerns (Table 3) varied with different phases of their study. Before joining the programme, their main concerns were guidelines on the subjects to be taken, and communication with the UK institutes. When joining the programme, their concerns were availability of learning facilities, direct communication with the lecturer and programme leader, and other indirect communication means.

Table 3 Students' Main Concern

Students' Main Concern	Importance
Guidelines on the subjects to be taken	3.4
Communication with UK	3.3
Learning facilities	3.1
Direct communication with lecturer	3.6
Direct communication with programme leader	3.0
Other indirect communication means	3.2

Guideline on the Course to be Taken

According to the survey on students and the interview with administrative staff of CityU, the greatest difficulty that both of them encountered was the guidelines on the subjects that students had to take in order to qualify for the dual award. This was due to the fact that the restructured programme was only introduced in 1997. A lot of students transferred from the old single award programme to the new dual award programme. The policy on the recognition of subjects under the old system to be transferred into the new system had changed several times. As a result, students were not clear about their status under the new system. The local franchisee was also unable to advise students as no clear guideline was given.

Communication with UK

Another problem that students have to faced before joining the programme was that they had to refer most of their queries to UK as the franchisee did not have the necessary information to advise them. Yet, it took a lot of time to obtained feedback from the franchising organisation. This problem caused a lot of frustration from both students and franchised institution. Students felt that they were not only neglected by the UK institutions but also the franchised institution. The local institution was also frustrated that they wanted to help the students but was unable to do so.

Learning Facilities

During the course, the main concerns of the students were the learning facilities for the course. Among all facilities, students regarded the library and information technologies support the most important. Furthermore, students had little tolerance on the change of venue, as they were not familiar with the campus.

Communicate Directly with Lecturers

Students found that communicating directly with the lecturer was important. Despite they recognised the fact that sometimes the lecturer might not be in the right position to handle their questions, they still thought that this was the most efficient feedback mechanism. They expected the lecturers to channel their opinions to the right people.

Communicate Directly with the Programme Leader

Though students found it less convenient to communicate to the programme leader, they agreed that it was essential to keep this channel known and open. It is because the programme leader had the special duty to ensure the quality of the learning experience of the students.

Indirect Communication Channels

Apart from the direct communication channels, students reflected that indirect communication channels, such as, class representative and teaching evaluation questionnaire, were also valuable feedback mechanisms. This might be due to the fact that a number of Chinese do not prefer to express their opinion openly. Maintaining indirect feedback mechanisms might therefore would facilitate them to express their opinions.

One point worth mentioning was that, there existed a strong relationship between the length of working experience and concern on guidelines on the subjects to be taken (.29) and communication with UK (.35). On the other hand, academic qualification had no direct relation with these factors. The reason might be that the longer they work, the less tolerance they had in wasting.

Attitude Towards the use of Overseas Lecturers

As the programme is leading to UK qualifications, the syllabuses were naturally be UK biased. For some subjects that had a significant proportion of UK or European elements, it was taught jointly by a UK lecturer and a local lecturer. The UK lecturer taught the UK sections and the local lecturer was responsible for general frameworks, theories and international elements of the subject. The lectures given by the UK lecturer took place in an intensive mode arranged to be held on Saturday, Sunday and several consecutive evenings within a week.

The attitude of those students' who had taken such course was compared with those who had not. This would help to identify whether there was any difference between students' perception and actual feeling about such arrangement.

Even though both groups of students believed that they could benefit more by having a UK lecturer to teach the UK elements of the subject, yet, the belief of those students who had actually taken the course was higher than those who had not taken the course. Furthermore, the former group of students was also more acceptable to the intensive mode of meeting (Table 4).

On the other hand the attitude towards the use of UK lecturers did not change with students working experience or the academic background.

Table 4 Attitude towards the use of UK lecturers

	Students who had not taken the course (Main Rating)	**Students who had taken the course** (Main Rating)
Will benefit more from having UK lecturers	3.8	4.1
Acceptance of intensive mode of meeting	3.1	3.5

5 RECOMMENDATIONS

Both the franchiser and franchisee have to work together in order to enhance the quality of students' experience in a franchised course. For the franchiser, finding the right franchisee and giving clear guidelines to the franchisee and students are the fundamental elements to ensure students' satisfaction. For the franchisee, ensuring the quality of teaching, maintaining both direct and indirect communication channels for the students and using home country lecturers may enhance students' experience in the course.

Finding the Right Franchisee

It is undeniable that the reputation of the qualification awarding institutions is of paramount importance for students to embark on a study. Yet, the reputation of the franchised institution is one of the main reasons for the students to register for the course. Students' experience on the course was derived from their contact with the franchised institution. Finding a franchisee with the right experience, appropriate teaching & learning resources and a well-established quality assurance system is a critical factor for enhancing the quality of students' experience.

Clear Guidelines to Franchisee & Students

In a franchised course the admission & the assessment of students resides with the franchising institution. The problem of communication among the franchiser, the franchisee and the students may not be serious if all of them are located in the same country. Yet, this may become a significant problem in a course franchised overseas. It is natural for students to seek help from those people who are nearest to them and speak their own language. Unfortunately, in the present situation, it has cause frustration among the three parties.

It is therefore suggested that clearer guidelines on admission, exemption and recognition of credit should be issued to both students and the franchisee. Though the decision power should reside with the franchiser, yet, the franchisee can be utilised as a local advisor for the students.

Ensuring the Quality of Teaching

Since the course is targeted at those people at work and from the survey, we found that the longer they work, the more they look for lecturer support. To ensure students' satisfaction on the course, ensuring the quality of teaching is vital.

Maintaining both Direct & Indirect communication Channel for Students

The importance of direct communication channel needs no further emphasis. Yet, in an oriental society, indirect communication channels are good ways to solicit the opinions of the silent majority.

Use Home Country Lecturers if Necessary

For a course based on foreign syllabuses, the use of home country lecturer will benefit the local students. Even though students still accept the intensive mode of teaching, if resources allow, it is better to deliver the lecturer over a longer period of time to allow time for students to develop critical thinking.

6 CONCLUSION

This case of a dual qualification franchised course is a more complicated arrangement than an ordinary one. It firstly involved two separate institutions in UK to form a partnership and them for this partnership to franchise the course to another institution in HK. As students judge the quality of their learning experience from their face-to-face contact with the franchised institution, finding a right franchisee and giving clear guidelines are vital for the success for the course. Furthermore, maintain efficient communication among the franchisers, the franchisee and students is also important.

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PROBLEMS AND STRATEGIES FOR THE IMPLEMENTATION OF PROJECT WORK IN JUNIOR COLLEGES IN TAIWAN

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1 ABSTRACT

The purpose of this study is to explore the problems encountered in the "Project Work" course in junior colleges in Taiwan. The research methods employed literature review and focus interview with teachers from junior colleges. As the findings of this study shown, there were several problems encountered in junior colleges while implementing the project work course. Based on the problems, interviewee and researchers proposed some strategies and recommendations for the teachers of junior colleges when they implement their project work course in the future. A project work may be implemented well in four dimensions, which are selection of topics, grouping of students, support of logistics, and assessments of project work. The recommendations within four dimensions may be served as a guideline to improve students' creativity also.

INTRODUCTION

Junior colleges are the major portion of post-secondary education in Taiwan. There are 60 junior colleges and more than 430,000 students in them (Ministry of Education, 1998). Junior colleges have trained and educated students to be technicians (Kang, 1985), and have made a significant contribution to the economic development in Taiwan. In order to develop students' practical abilities, a project work course is always set in the junior colleges. The general responses from industries, however, show that the employment abilities of junior college graduates were insufficient, who are not able to face the real-work situation. So, they need a long time for pre-job training moreover. One of the most rapid and direct ways to enforce students' practical abilities is to improve the course of project work. Therefore, the primary purpose of this study, then, is to explore the problems encountered in the project work course in junior colleges in Taiwan, and then, researchers will propose recommendations for the improvements of the project work.

Students of junior colleges have implemented the project work courses for many years in Taiwan. The performance of this course is usually assessed at students' presence, daily work records, products, and reports. Their practical abilities, however, are ignored. Most students usually and casually pick a topic for graduation in their project work course, or their products may be very creative without practicability, and vice versa. It goes without saying their "contributions" to our industries.

Traditionally, junior college students majoring in various fields are asked to choose different courses for the requirements of graduation. Whether students can integrate these courses or not, they are regarded as being competent in the field. This situation causes the public to criticize in post-secondary education. Moreover, students' learning in the junior college is not so much practical as theoretical (Hsiao, 1997). Because of these reasons, students usually lack the knowledge and technique of the products' planning and manufacturing in the courses of project work, let alone the cultivation of practical abilities.

Recently, a time of revising the curriculum, emphasizing the development and exercise of human resources should meet the needs of economic development stages. There are many educators who propose that the courses should incorporate with enterprises' needs, especially in junior colleges. Thus the junior colleges should provide considerable middle-level technical workforce to meet the demands of trade and industry. Furthermore, it is very important to cultivate students' creativity in project work courses, too. Creativity helps improve the quality of a person's work, provides ideas for the development of knowledge fields, provides idea for the advancement of technology, and even keeps a country competitive (Hsiao, 1997). Due to the above reasons, many policy makers and educators emphasize creativity either in the industry or in schooling.

Therefore, the secondary purpose of this study is to propose strategies for the improvement of creativity in project work for junior college students.

OVERVIEW OF PROJECT WORK

By encouraging junior college students to move out of the classroom and into the real work world, project work helps to build the bridge between theory study and technology use. Therefore, a valuable means of extending the multi-dimension skills likes project work is acquired in the classroom. Originally, a project work course usually focuses on products' revising or manufacturing undertaken by a group of students in the class. But, the main goal of a project work is to learn more about a topic rather than to find answers to questions posed from a teacher (Katz, 1994). It was also designed to develop student-centered approaches to learning and to develop transferable skills and personal qualities at the same time (Mellor, 1991). Thus, students are responsible for the direction and range of the work they undertake, which may carry them beyond the teacher's own area of subject expertise. The goals of project work from some literature can be concluded as following (Harris, 1981; Hwang, etc., 1997; Lumsdaine & Lumsdaine, 1995; Lee, 1994; Lee & Chen, 1994):

1. Strengthen students' ability to integrate theoretical knowledge and practical skills.
2. Cultivate students' independent R& D (research and development) abilities.
3. Establish students' good human relationship.
4. Train students to manage time and control the quality of products.
5. Develop students' writing and presentation skills.
6. Encourage teachers to supervise "project work" to increase the study morale and promote the level of technology.

From the above literature, project work in the junior college provides students with contexts for applying the skills that they have learned in the class and for group cooperation. It also educes students' potentials to understand things and even to change things around them.

In Taiwan, the project work course is usually set in the final academic year of junior colleges and is the most important part of the final year courses in schools of science and engineering. The project work is only 2 credits, 3 or 4 hours per week in one semester, but the laboratory in junior colleges is open at any time, and students can enter freely. Thus, students can have sufficient time to finish their products for the project work course.

For topics, most schools do not offer chances for the students to choose. Some project topics originated in an industry problem, and others were usually related to a supervisor's own research interests. The supervisor imposed ideas upon a student or laid down the way of the project implementation. This type of project work usually makes students without creative thinking. Certainly, resources are one of the most important influence factors on the effectiveness of projects, too. Because they constraint on possible topics and availability of equipment for students to use. Therefore, the topics should be chosen according to students' interest or experience and schools need to offer sufficient support.

METHODS

The purpose of this study is to explore the problems encountered in the project work course in junior colleges in Taiwan. The research methods employed literature review and focus interview. From the literature review and interviews with 7 teachers from 5 junior colleges, there were several problems encountered by junior colleges while implementing the project work course. Based on the problems, interviewee and researchers proposed some strategies and recommendations for junior colleges when teachers implement their project work course in the future.

BETTER FUTURE FOR PROJECT WORK

There were several problems encountered in junior colleges while implementing the project work course. The problems can include as follows: (1) students' abilities are too heterogeneous to group, (2) it is not easy for the students to determine the topic of project work, (3) students have no ideas as to how to choose the topic of project work, (4) entrance examination to 2 year university influences the students' participation in project work, (5) students have insufficient domain knowledge and the skills of technology, such as: PLC, CNC lathe, etc., (6) there is deficient administration and stuff support, especially in private schools, (7) students can not use problem solving skills when facing their project work, and their products are less creative, (8) there is insufficient space to implement and store materials for products, (9) it is hard for teachers to evaluate individual performance in team work.

From the situation mentioned above, a project work course does have a lot of help to students, teachers, and enterprises. Most students and teachers indicated that project work course was a good course for junior college students. However, several problems should be solved for better results. The following four dimensions may serve as guidelines for solving the problems.

Dimension 1: Selection of topics

Students may visit enterprises or it is the best way that students work in the enterprises for two or three months, and students observe technological uses and find problems encountered in the enterprises. Then, students find out some interesting topics from the enterprise (Hwang etc., 1997). At the same time, teachers encourage students to solve problems through CPS (Creative Problem Solving) process, and students need to communicate with enterprises for problem clarification and to present their ideas or solutions to the enterprise in their meeting and obtain worthy criticism or necessary support.

Dimension 2: Grouping of students

Teachers may organize groups as follows: (1) topics of interest found by students in the industry are listed to the class, (2) the topics are whittled down, through discussion, to a small number, (3) each student ranks the topics in order of personal preference, (4) the course supervisor then allocates topics to students according to their preferences: groups are thus constituted, (5) supervisors' names are not revealed or allocated till the groups are divided.

Dimension 3: Support of logistics

Schools need more budgets for the materials of project work and offer enough room to store materials and semi-products. Teachers should use cooperative learning to help students in the implementation of project work.

Dimension 4: Assessment of project work

To ensure that each student is individually accountable to do his or her fair share of the group's work, teachers need to assess how much effort each member is contributing to the group's work, provide feedback to groups and individual students, and ensure that every member is responsible for the final outcome. There are consolidated ways to assess individual accountability. They include (Johnson & Johnson, 1994):

1. Keeping the size of the group small. The smaller the size of the group, the greater the individual accountability may be.
2. Giving an individual test to each student.
3. Randomly examining students orally by calling on one student to present his or her group's work to the teacher or to the entire class.
4. Observing each group and recording the frequency with which each member contributes to the group's work.
5. Assigning one student in each group the role of checker. The checker asks other group members to explain the reasoning and rationale underlying group answers.
6. Having students teach what they learned to someone else.

As a whole, the form of assessment should include both formative and summative assessments. Obtained assessment data should be both qualitative (descriptive) and quantitative. Grade for each student includes both individual performance and group performance.

CONCLUSION

Project work has a lot of help to students and enterprises. However, it also has several limitations. The implementation of project work should keep limitations away and follow the right concept. The implementation of the curriculum of project work in many universities in Taiwan has been successful, but several shortcomings need to be removed so that the better results could be obtained in junior colleges.

RECOMMENDATIONS

From this study, some recommendations are proposed for project work in junior colleges:

1. More emphases on communication among enterprises, schools, and students. Teachers should keep in touch with enterprises to understand their skill needs or professional skill levels in the industry. And enterprises should regularly hold a meeting with students or invite students to visit their factory to understand their developing policy and technological uses. Even let students solve enterprises' problems.
2. The future researchers may focus on how to effectively develop scales with reliability and validity to assess students' creativity.
3. Furthermore, project work course should be regarded as a required course in junior colleges.

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THE CHANGING FACE OF VOCATIONAL EDUCATION IN THE UNITED STATES

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The educational system in the United States has been plagued in the past several decades with a myriad of reform movements that have failed because of a lack of focus on the real issue-that of changing the very core of what we belleve is important for the majority of students in our schools. We have gone about change in a very different manner in South Carolina. Culminating with the passage of the School-to-Work Act of 1994, we have set out to fundamentally alter the culture of the school. The low-level general track that led students to nowhere has been replaced by high expectations for all students. A curriculum is in place that is driven by what students need to know, and more importantly, be able to do as adults. It is difficult to overcome decades of ineffectiveness and haphazard tinkering, but the core tenets of what we value as important for every citizen of our state has led to much needed transformation of school. This transformation has been led, in large part, by a vocational education system that has embraced change and has emerged at the forefront of the effort to educate all students at high levels.

A plethore of statistics exists that points out the fallacy of a four-year college degree being the culmination of every student's education. Although still the American dream, college graduation is realized by only a small percentage of the population. So, our educational system has operated for the past century on the false premise that secondary education's primary goal is to prepare kidsl for college. This may have been true at the turn of the century when only the elite of society went to school past the sixth grade, but since the depression and the decline of our agrarian society, pluralism has become reality and we now seek to provide twelve years of schooling for everyone. And, as Willard Daggett, internationally-known educator, is quick to point out, the basic core subjects of math, language arts and science are essential for every student, but they are not adequate as we face the new millennium.

The needs of today's graduates are being dictated by the emerging global economy-one that demands not only a skilled labor force, but one that possesses the concomitant abilities to think, adapt, and communicate. That has become the mantra of what we are trying to accomplish through vocational education in South Carolina. How do we produce graduates who are technologically skilled, can solve problems, can communicate effectively, and can function within today's workplace? To reach this auspicious goal, we have focused our efforts on five major building blocks:

- Updated vocational course offerings
- Applied academics
- Curriculum integration
- Career guidance
- Work-based learning

We realized several years ago that the image of vocational education was tarnished but not irretrievebale. For too long, we had foolishly clung to outdated courses delivered in isolation from the general curriculum, often in separate facilities. Our programs were perceived as less than rigorous and became dumping grounds for students who had not excelled in traditional academic cursework. To stem this negative tide, we chose as our bulwark the notion of high expectations. The demands of the workforce were becoming greater than those encountered by students going on to a four-year college or university. Unless we were willing to provide a curriculum that adequately prepared our graduates for this challenge, jobs would be lost in South Carolina and new industry would not move to our state. The issue became one of simple economics. As we all know, money talks. This provided the major driving force behind our push for a rigorous, reelvant course of study for all students.

Business and industry leaders in South Carolina immediately embraced our proposal for change. A coalition of business leaders successfully worked with education leaders to push through legislation in 1994 that provided the foundation for the radical change we souht. The law essentially mandated the five planks outlined above and provided the leverage we needed to proceed with our agenda. This broad-base support from the community has helped sustain our efforts and continues to push us forward to achieve the end results of a competent, well-prepared workforce.

Clearly defined career clusters form the cornerstone of providing meaningful opportunities for students to take and succeed in high level coursework. Beginning no later than the sixth grade, career plans are developed using the clusters. The plans serve three distinct purposes: to guide course selection, to make connections between career aspirations and coursework, and to provide direction in selecting work-based learning sites. The choices made in middle school can be changed at any time and are not meant to lock students into narrow paths. IN fact, these plans are reviewed annually and altered based on changing needs and desires. As counselors, teachers, parents and students make choices about future directions, an overarching concern is to be realistic about what the world has to offer after graduation. Much of our change efforts are centered on transforning the perception of the public that the ultimate goal of every student schould be a four-year degree. By carefully laying out viable course sequences and linking them to high paying technological careers that are available in the community, much wasted time and effort is circumvented.

Students learn differently. Much of our pedagogy in the past century has been steeped in the teacher as lecturer tradition. Research has shown, however, that many people learn better through a more hands-on, contextual approach. Given this contradiction, it is not surprising that many of our students have difficulty grasping rigorous subject matter. To combat this absurdity, we have developed and instituted applied academic courses for students who learn better using applied methods. Rigorous courses are available in science, math, and language arts. The content of teh courses is similar if not identical to traditional college prep courses; however, the concepts are taught using laboratory exercises, infusing technology, and by using real-life examples often pulled from vocational education.

The tie in with vocational education represents another key aspect of our structural change. The intergration of vocational and academic education is critical to the success of our initiative. Numerous strategies are used to make the connection between what is learned in the subject areas and what is learned for a specific occupation. These include common planning time for teachers, team teaching, integrated projects, career academies, and cross discipline sharing of competencies. This notion of the conenctedness of the curriculum provides another avenue for students to become self-aware of teh "why" of qhat they are learning.

No where is the "why" more apparent than in actual instruction occurring on jobsites in teh community. Worksite learning opportunities exist in elementary grades through post-secondary. Service learning, entrepreneurship and shadowing can begin as early as elementary school for students to learn work behaviors and to begin to explore possible careers. As career choices become more evident, students may opt for an internship or apprenticeship, which both consist of a more structured learning environment that is directly linked to school-based learning. In South Carolina, we have established many successful youth apprenticeships that mirror what is happening in other industrialized countries such as Germany. These students receive a world class education through innovative companies that are competing in the global marketplace.

Business and industry in our state have been very responsive in forming ongoing relationships with our Tech Prep Consortia that include some or all of the work-based learning models.

Given the distance we must travel, our journey is far from over. The first legs have been arduous. Nevertheless, progress is being made. More and more students are gaining access to a rigorous, relevant curriculum and are entering exciting technological fields. The availability of jobs that demand skilled, technological workers is burgeoning. To keep pace, the foundation we have laid must be continuously reinforced and strengthened. The integrity of both occupational and academic courses must be realized and maintained; teachers, counselors, and administrators must reveive quality training; and businesspeople and educators must be equal partners in determining the fate of our schools. Most importantly, the initiative must not be seen as a passing fad. Change is painful and takes time. We are committed to investing the time and resources necessary to giving the majority of the students in our schools the chance to become successful citizens.

PROFESSIONAL DEVELOPMENT: MORE THAN A WORKSHOP

By
Julie Grevelle

Have you ever wondered what happens when the teacher closes the classroom door?

Despite our best laid plans to reform career and technical education, do we really know if the result is a better learning environment for more students?

Will student achievement levels go up or remain the same?

The answers often lie in the preparation and support system in place for the teacher. If the teacher received notice two weeks prior to the beginning of school that he or she was going to teach a new type of course using "the latest in contextual teaching materials" but had little more than a half-day of training, it is likely that teacher will put the new tools and materials on the shelf and pull out his or her old lesson plans by the third or fourth week of school. However, if the teacher has been involved for some time with a team of other teachers and educators to address new methods of contextual learning and has participated in a comprehensive professional development program with follow-up and a system for networking with peers during the school year, it is possible that significant and positive changes will occur in the classroom.

There is little doubt that professional development has the potential result of improved practice in career and technical education. Mounting evidence suggests that high-quality, focused professional development can lead to marked increases in student achievement.[1] However, attempts at education reform with poor training are little more than good ideas on paper. As we attempt new teaching styles and curricular change in career and technical education, methods of teacher professional development should be reconsidered, restructured, and, in some cases, completely overhauled. A common misconception within the education community is to assume that a two- or three-hour session is adequate training for teachers to adjust teaching methods that have been a part of everyday practice since the beginning of their professional careers. The one-shot training workshop will do little good, and often more harm, as the "magic bullet" for educational reform.

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[1] *Building Knowledge for a Nation of Learners: A Framework for Education Research*, 1997. (US ED, OERI, Sharon P. Robinson, and the National Research Policy and Priorities Board) 1997, page 30.

The use of various methods of professional development will sustain comprehensive and long-term efforts of change in curricula and pedagogy. Through extensive teacher training experiences, CORD has found that poor teacher professional development frequently leads to failure in the implementation of applied academics. "Teachers should be helped to find connections between theory and practice. They can excel in the knowledge and presentation of subject matter and be woefully lacking in applications of the concept."[23]

Overcoming Attitudes and Beliefs

It is difficult to understand why schools systems in countries such as the United States don't invest more effort in the professional development of teachers. Yet, US schools spend a meager percentage of their budget on staff development (often 1 to 2 percent). The answer may be in the attitudes of the education community about reform and about the purpose of professional development.

For the past decade or two, the battle cry, *all students can learn*, has echoed in faculty meetings, headlined mission and goal statements, and decorated walls of classrooms and offices in the nation's public schools. The statement may vary slightly, but many a district has used some version of the slogan. The problem is that very few people in education truly believe that *all* children can learn, and maybe the attitude or belief about learning is the underlying problem.

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[22] Hull, Daniel M., and Leno S. Pedrotti, "Changing the Way We Teach to Match the Way We Learn" *Teacher Education and Practice*. (Journal of the Texas Association of Colleges for Teacher Education, Vol. 11, No. 2, Fall/Winter 1995 page 26).

[23] Gene Bottoms, "Why Isn't Applied Mathematics Working in My School?" *Connections*, January 1996.

Cognitive researchers Caine and Caine describe these personal biases among educators as "mental models."[4] Many educators shape new concepts of reform to support what they already believe in their own mental models of teaching and learning. Mental models become a filter for discerning what aspects of new pedagogy will and will not be accepted. This aspect of human nature leads many educators to develop a "fix-it philosophy" limiting change to simple modifications or specific techniques. The result is often a "quick-fix workshop" that neither improves teaching practice nor substantiates any motivation for the teacher to instigate systemic change.

Mental models of teaching and learning will continue to create barriers for progress in career and technical education if steps are not taken to address individual differences in perception and bias about contextual learning through professional development. Attitudes that are barriers to change often come from negative experiences in attempting new teaching methods that failed in the past. Education reformers must recognize that teachers have been pressured, forced, cajoled, and bribed into making changes in the classroom for years. Most of the time, their own interests, concerns, experiences, and attitudes are not considered or questioned. Professional development should be designed to first listen to the teaching professionals and treat them as an important part of the change process. This is a critical step before any one teacher can feel open to change.

The following is a list of common beliefs or attitudes of educators that should be considered in any career and technical education professional development efforts, but especially those related to contextual learning:

1. We learned things in a traditional abstract lecture method and believe it served us well.
2. We define success by those who respond to traditional lecture methods first because that is what is taught at the university.
3. We have to prepare students to succeed by preparing them for the standardized tests—there is too much detail to address this in a contextual way.

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[4] Caine, Renate Nummela, and Geoffrey Caine, *Education on the Edge of Possibility*. Alexandria, VA: Association for Supervision and Curriculum Development, 1997.

4. There is not enough time nor is it practical to manage a classroom through nontraditional means.
5. We identify with the top 25 percent of students because they are already motivated to learn the way we learned in school.
6. We can explain concepts in our areas of specialization skillfully but find it difficult to give students credible instances of where the concepts are used in the world of work.
7. Learning in context of the world of work is not useful and too limiting. It will stifle students' creativity and imagination.

A fundamental reason for these attitudes may be that teachers teach the way they were taught. Most teachers are part of a self-perpetuating cycle of one type of pedagogy—lecture/abstract—the one they are most familiar with in their own education experience. Many of the attitudes and beliefs listed above are born out of this cycle and do not give teachers the experience or the knowledge to feel comfortable with new methods.

Teachers are not the only educational professionals who have traditional views about pedagogy. Contextual teaching is still a brand new idea to many educators. Many a campus administrator still believes that the old ways are the best ways. For this reason, some aspects of professional development should include administrators. There is very little chance that a teacher will adopt contextual teaching if the campus administration doesn't support or even approve of this pedagogy. To benefit students, teachers not only have to believe in contextual teaching's worth, but also have the time, resources, and training to make the necessary changes in their classrooms. A teacher can attempt adjustments in the classroom structure, but, if the principal or administrator does not provide positive support most efforts will be in vain. Teachers need the confidence of their principals to feel comfortable attempting new methods that may take some trial and error before achieving successful outcomes.

Starting with a Base of Research

The best means to persuade educators to adopt new teaching methods is to present forceful evidence from research studies relevant to classroom practice.[5] Educational research can have its greatest impact when concepts are relayed from experiences. Research should be based on the realities of all learners as well as the flow of classroom life. In other words, convincing arguments for teachers must reflect a study of issues that stem directly from actual classrooms and include the testimony of their peers. Teachers recognize that they do not have time to test every new idea in their own classrooms but they are more likely to consider changes if they are based on case studies.

The lessons learned from education studies on learning styles and brain research have finally revealed more effective methods of teaching and learning. The fact that a student has a different learning style does not make him or her less intelligent. Howard Gardner has emphasized this over and over with his research and writing about multiple intelligences. Gardner follows up all of his recommendations for teaching to fit multiple intelligences with authentic models and research in classroom practice. Many other researchers in the cognitive sciences, such as Caine and Caine, use the experience-based approach in their studies and reports of findings. (Refer to the bibliography for a listing of some of these publications.)

Teachers need a big-picture perspective on the applications of educational research in the classroom. Before attempts are made to put new methods into practice, a reason for change must be present. Often teachers find this motivation through experiences at regional and national conferences. Teachers hear from other teachers who have found success in new practices. Other methods for encouraging new practices in contextual teaching can come from "experiential learning." Teachers who have opportunities to experience the workplace firsthand understand the logic and purpose of introducing concepts within the context of authentic situations.

Round Rock Independent School District in Texas includes business partners in its professional development offerings. Teachers choose from half- to full-day visits at industry sites. The businesses determine how many staff members they can accommodate within a given time period. As many as twelve to twenty offerings are open to any educator within the district, including counselors and administrators. The goal of these experiences is to give educators a context for teaching and preparing students.

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[5] New York City Public Schools. "Making Staff Development Pay Off in the Classroom" *Research Brief #4*. New York: New York City Public Schools, April 1991.

Elements of an Ongoing Process

It is one thing to hear about educational research and understand that your teaching methods need considerable improvement; it is quite another to have the information, tools, and support system available to make changes. In fact, if all these are not available, the sense of frustration in knowing there are better ways to teach, but no way to accomplish them, may make for one very unhappy teacher. Some schools, such as the those in the central Texas region, have implemented study groups. Teachers are divided into groups and, either by consensus or as an assignment, read a particular article or book relating to issues and research in education. The groups meet together periodically, usually weekly or biweekly, to discuss what they read. Time has to be provided for this to happen, but the support and opportunity to discuss with a group who understands the issues can be invaluable.

The United States National Association of Secondary School Principals supports the notion of peer support and follow-up as an ongoing part of professional development and makes two relevant recommendations:

(1) Every high school will be a learning community for teachers and for the other professionals it employs, and

(2) The high school—with the help of the school district—will provide adequate funding, time, and other resources to ensure that professional development is a continuous, ongoing process.

By having group discussions, the best teachers, new teachers, tired teachers, and uninformed teachers can collectively address concerns or barriers, learn from each other, and nurture new ideas for contextual learning.

When the attitude begins to change, teachers and administrators should have plans for ongoing professional development as well as implementation. It is extremely important for campus administrators to understand the process—first, so they don't hinder it and, second, so they can nurture it. While the administrators may not need the in-depth workshop, they at least need an overview. As a campus and/or district makes plans to offer training on contextual teaching, several factors should be considered. (Possible reference to *Standards for Staff Development* by the National Staff Development Council)

(1) *Is the training part of the change process for the campus, or is it the training du jour to be replaced next year by the latest and greatest?*

There is nothing more detrimental to teacher morale than to build excitement and support for a new idea, begin the training and implementation process, and then scrap the whole thing the following year.

(1) Does this training relate to and support other campus improvement initiatives?

It is important to understand how all the puzzle pieces fit together. If an educator doesn't see the connection to the whole, the tendency is to view the training as an add-on or "just one more thing they want me to do."

1) *Is there a long-term plan for ongoing training?*

Before any new training is begun, plans should be made for follow-up training. Frequently, one-shot training results in useful information, but no one ever does anything with it. There must be an expectation that the training will be implemented, and the procedures for follow-up and evaluation should be explained in the initial training. Time must be provided for the teachers to discuss successes and failures with each other and the "experts." As implementation proceeds, higher levels of training may be desirable.

1) Are the supplies available?

Make sure that the implementers will have all the supplies necessary. Since contextual teaching generally involves hands-on projects, additional supplies are needed. While the cost need not be excessive, it should be budgeted.

Methods of Teacher Training

Methods of teacher training should mimic the proven ideas we have about contextual learning in the classroom. As one teacher trainer put it, "Teachers are people too and should benefit from a broad spectrum of activities that let them discover and solve real problems, then reflect upon their experiences and collaborate with others." Effective methods of teacher training should include combinations of theory, demonstration, practice, feedback, and coaching. Teacher training programs designed with these various elements will result in a dramatic increase over traditional methods in the transfer of skills from the workshop to the classroom.[6]

A study on the transfer of training to the classroom, conducted by Joyce and Weil, reinforces the need to make training programs more contextual. As shown in the chart below, the inclusion of each training component increases the amount of skill attained as well as the transfer of skills to the classroom. If all training components are incorporated, the likelihood of full implementation increases from 5 to 90 percent. It is important to note that feedback and coaching will significantly improve the transfer of skills to the classroom. Without the opportunity for teachers to internalize and participate in their own renewal, it is difficult to impact any sort of change.

Research on Teacher Training Methods

Training Components	Skills Attained	Skills Transferred to Classroom
Theory	10-20%	5-10%
+		
Demonstration	30-35%	5-10%
+		
Practice	60-70%	5-10%
+		
Feedback	70-80%	10-20%
+		
Coaching	80-90%	80-90%

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[6] Bruce Joyce and Marsha Weil with Beverly Showers, *Models of Teaching*, Needham Heights, MA: Allyn and Bacon, 1992.

A Professional Development Survey

In a recent survey of a group of thirty applied mathematics teacher trainers, CORD's staff pulled together thoughts and consensus on what should be included in any professional development program. Among the suggestions discussed within the workshop, trainers felt strongly that there should more and better ways for teachers to communicate with other teachers. Follow-up sessions were unanimously considered important, and suggestions for follow-up included electronic mail, videoconferencing, visitations, six-month surveys, and simple phone calls.

When asked for the top three most effective means to get teachers to attend and participate in workshops, the respondents agreed: 1) compensation (money, time, and graduate credit), 2) release time, 3) choices among days and schedule to attend training. They followed these responses with a list of most frequent complaints of teachers, including loss of time with class and family, little time to network with other teachers, no compensation, lack of follow-up, and the location of the training.

In conclusion of the teacher trainers survey, small group discussions were conducted to summarize the following top ten rules for delivering successful professional development programs:

TOP TEN RULES FOR PROFESSIONAL DEVELOPMENT

1. Realize teachers are experts and involve them in the workshop.
2. Model contextual teaching techniques.
3. Provide follow-up activities such as E-mail, videoconferencing, site visitations and phone calls.
4. Offer hands-on, up-to-date, and tested activities that are ready to use when teachers return to class.
5. Provide compensation (money, time, graduate credit), release time, and a choice of days to attend.

6. Organize peer groups to support each other on an ongoing basis.
7. Share experiences and make the material relevant to each teacher's own classroom situation.
8. Monitor progress, adjust agenda, and be flexible to needs of teachers.
9. Offer a variety of training activities such as theory, demonstration, practice, feedback, and coaching.
10. DO NOT LECTURE.

As we move forward with reform efforts, we must maintain our focus on our primary purpose—is what we are doing or planning to do good for all students? If we maintain this focus, teachers will want to pursue new methods of teaching. The task of professional development can be a positive experience for teachers, often giving them the renewal needed in an environment that usually points the finger before assessing the real issues of reform. We have to make every effort to adequately prepare and support teaching professionals in this process of change

THE SUCCESSFUL USE OF TECHNOLOGY IN THE IMPROVEMENT OF VO-TECH EDUCATION

Carolyn Prescott,
Learning Technology Director, CORD

Frank Jennings,
President, CORD International

School reformer Neil Postman poses several questions for educators who are contemplating the uses of technology in the classroom. He begins by asking: What is the problem to which this technology is the solution?[1] Historically, Vo-Tech programs have faced several problems, or challenges, that information and communication technologies may help to solve:

- How can schools and workplaces connect more easily and with a more meaningful link to curricula?
- How can vocational and academic education be more fully integrated?
- What is the best way to teach for the transfer of learning?
- How can schools best equip students for opportunities after secondary school, meeting their needs to begin a career pathway and/or to continue schooling?
- How do we address the needs of students who enter our programs unprepared?

1 Technology in the Classroom—Four Stories

A number of schools have applied the tools of technology in ways that address these problems. The classrooms described in the following four scenarios are composite pictures based on school visits, teacher interviews, and research reports. These descriptions are technology intensive because they are intended to convey a vision of how a variety of learning technologies can be used to support the curricula and to meet the challenges of Vo-Tech.

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[1] Carolyn R. Pool, "Perspectives/Centuries of Learning," *Educational Leadership*, Volume 55, Number 3, November 1997, page 5.

Project-Based Learning with a Workplace Connection

In the science and technology (Sci-Tech) class, Julia and her team members are designing a small mechanical car to meet certain criteria, among them the capability to cross into a given area, drop a Ping-Pong ball into a target at its center, and return to the edge of the field. Using a CAD shareware program to create its design, Julia's group also keeps a detailed log of its daily progress, including reports on the team's group dynamics. Members will use a spreadsheet to record and display trial run data about their car, and they will write documentation for the operation of their car. Before actual building takes place, however, the students must present their designs to a panel of professional engineers who will approve their plans or not, and will provide written feedback. Designs and feedback will travel between students and engineers via E-mail. By the way, where are the teachers? You can't see Ms. W., the physics teacher on the team, because she is surrounded by students listening to her mini-lecture on force and work. Mr. B., the shop teacher who teams with her, is coaching a student on a CAD program.

Tools for the Learning Continuum—From Individualized Remediation to Teamwork for Problem-Based Learning

The geometry class is organized as a learning laboratory. Students work in small groups to solve problems assigned by their teacher, Ms. G., using manipulatives, pencil and paper, and, often, one of the classroom's four computer stations. Today, Todd and Janelle are playing a simulation game in which they must build a swimming pool. Todd explains, "It's like you're a contractor; you have to schedule people to come in and work and you have to figure out the geometry so you know how much material to order." At another computer, Jamie is using an interactive tutorial on basic geometry concepts. Ms. G. comments that Jamie entered the class unprepared because of early learning disabilities that are only now being addressed. "This software gives him a great deal of practice and the tutorial support that he needs to work through the problems for as many times as needed. The repetition is essential for him, and we've both been encouraged by his progress, which has helped him *become an active member of his class team." The class team to which she refers is working on an actual building project—a greenhouse for the school. Two team members, Pilar and Valerie, are creating a spreadsheet for project costs, using one of the class computers. The construction project is being carried out in cooperation with the construction framing and biology teachers. Ms. G. explains that, at one time, so many things going on in one room would have been too much to consider, but that her basic teaching method has changed over time. "I do most actual instruction in small groups or minilectures. Students take more initiative on projects and more responsibility for their skill-building." She credits the students' capability and her own shift in teaching methods to several developments, chief among them the use of authentic assessment and electronic portfolios in the school and a telementoring professional development program in which she participated for a couple of years.*

Classroom Investigations Extended to the Workplace and the Web

In a corner of Ms. J.'s chemistry class in the community college, five students huddle over a list of questions; they're scheduled for an interview today in the school's videoconferencing center. They will be talking with a power plant operator sitting in the control room of a power plant about 100 miles away. Besides a number of general questions about the power plant and the various jobs associated with it, they will ask the operator specifically about how an understanding of the gas laws and states of matter is critical to the daily operations. They also hope to have the operator agree to be a content reviewer for the multimedia tutorial on the behavior of gases that the class is producing. Other activities that will be integrated into the tutorial are digital photographs of two laboratory exercises on gases and some written material on the gas laws, downloaded from an on-line science museum on the Internet. The students expect to put their completed tutorial on the college's web site, which is linked to an on-line chemistry course developed by a coalition of community colleges.

Career Preparation with an Authentic and Immediate Purpose

Ms. W.'s systems administration class includes students at three different levels of competency in systems administration; most of the seniors have been in the class for three years, working their way through a prescribed *program of study. The class is a study in transmitted knowledge and culture, in which those only marginally experienced in computer use, like Jane, who does not have a computer at home and therefore haunts the lab after school, are mixed together with young hackers, like Alejandro, who grew up with computers at home. Through a methodology of cooperation, collaboration, and camaraderie, both groups are transformed into competent and responsible guardians of the system. Motivation to excel in this program is high; some students even add to their credentials by obtaining network certification through a community college program, which they attend through a videoconferencing link. Students are driven by the status and responsibility of being in "sys-admin" for the school, as well as by the promise of job offers from local firms that recruit from the class.*

2 Analyzing the Vision of Technology Integration

About the foregoing scenarios, many teachers will ask: Whose dreams are these? With four computers per classroom, a videoconferencing center, web sites, distance learning links, and electronic portfolios, the classrooms described here cannot be considered typical. Teachers have been denied technology when they were promised it, given technology without the training and support to implement it in a worthwhile manner, and forced to prepare for something that may or may not happen in the classroom. These realities cannot be ignored, but neither should they discourage us so completely that we do not look at what technology *can* do to solve our problems. Every technological solution mentioned in the composite scenarios above already has been implemented at multiple sites around the country. Unquestionably, these success stories are not the norm, and the technology itself brings many problems to be solved—the most critical in the area of teacher support and training for technology. However, a recent report indicates that the most important leadership for the implementation of technology occurs at the school level and usually involves a small cadre of innovating teachers, with a leader coming from within that group or, about half the time, with a pivotal role being played by the principal.[2] This is consistent with findings that technology is most successfully implemented when it is part of a larger instructional vision. Although our envisioned classes are not actual, they are constructed of the technological applications of many classes and thus contain within them viable solutions to the Vo-Tech problems raised earlier, which we can now revisit and analyze.

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[2] Office of Educational Research and Improvement, U.S. Department of Education, *Technology and Education Reform*, April 1997, page 115. Report prepared by Barbara Means and Kerry Olson of SRI International.

3 How can schools and workplaces connect more easily and meaningfully to curricula?

Vo-Tech programs have long been concerned with identifying and helping students understand the connection between school learning and future work. Vo-Tech programs undertake to help students in the tasks of identifying with adult roles and role models as well as choosing areas of concentration for their high school studies. The latter focus helps to intensify student motivation and interest as well as to move students toward potential careers. In practical terms, however, it has proven difficult to create the connections with the workplace that are so compelling for students. Linking to the workplace has tended to be expensive and difficult to achieve in Vo-Tech programs for reasons of security, liability, proprietary information, transportation, and time. Moreover, internships and mentoring of students often do not link the curriculum—through everyday learning activities—to the workplace.

Telecommunication links—via the Internet and videoconferencing—can make workplace connections a viable option for more students—especially those isolated in rural areas or urban ghettos—and can make workplace connections more routine and integrated into the curriculum for all students. In the science and technology class described, the primary contact occurs via E-mail. The course is designed to include the kinds of tasks performed in many workplaces—scheduling, design, testing, documentation—and the students' work is evaluated and commented upon by outside professionals. This lends a seriousness to the classroom project that test scores or teacher approval cannot duplicate.

In the chemistry class, the outside world comes into the school via a videoconference with a power plant operator and an Internet investigation of the gas laws. The power plant operator will tell stories that vividly demonstrate the relationships of temperature, pressure, and volume in the power plant, while at the same time acting as a role model and a source of career and job information. The primary issue for educators will be, as with other technologies, not the technical aspects but the uses to which videoconferencing can be put. That is, how can people in the workplace interact with students in ways that clarify academic content, demonstrate employability skills, and allow students to identify with them in their occupational roles? The strategies for student-workplace connections can go beyond the interview format; other types of connections include students solving a work problem as presented by workplace mentors; students observing or participating in a workplace meeting; or workplace representatives coaching students in problem solving, to name but a few.

4 Internet Research Benefits

Internet brings not only E-mail but a giant library into every connected classroom. Students become critical appraisers of the material they find on the Internet. The processes of retrieving, evaluating, and synthesizing information from the sea of information available on the Internet involve learning at its most profound level. Internet searching requires introducing students to fundamental research tools: Boolean logic, an understanding of search engines, easy reference tools that help students get started and understand how certain information is linked, the use of concept maps to clarify information linkages, to name a few.

The challenges of using the Internet are the challenges of learning to think, assess information, and solve problems in the complex context of the world outside school, but with the safety net and guidance of teachers. Sites on the web include businesses, trade groups, nonprofit organizations, government agencies, museums, and universities. All these sites represent current connections to the workplace and the community and can be integrated into curricula.

Two links mentioned in the earlier classroom vignettes are of a different kind: The electronic portfolio and the school web site are links from the school to the outside world. The electronic portfolio is easily shown to prospective employers or colleges; it is designed to go out into the world. It appeals to students for that reason and because of its format. The web site has the potential for allowing students to share their work and their ideas in a worldwide forum, and having such an audience is a positive learning experience for students. As Bill Handlin, the webmastery teacher at a USA high school, and his colleague, Patricia McCulloch, explained, the process of web page building involves continuous problem solving by students.

5 How can vocational and academic education be more fully integrated?

Vo-Tech programs continue to be plagued by the traditional division between vocational and academic programs. This division is likely to be blurred as technology allows for more connections to the outside world and school becomes less separate from work and community life. Specifically, in both academic and vocational courses, students will be able to witness and participate in activities that link concept and application, theory and practice. Eventually, vocational teachers and students will not be isolated by their interest in future work because that concern will be shared by academic teachers and their students. The understanding of future work also is likely to be broadened by this exposure. Occupational opportunities will be seen as more various and multifaceted than previously perceived; for example, the division between working "with the head" and "with the hands" may break down when the realities of the workplace are scrutinized more closely.

The information explosion—as brought into the classroom by Internet—will also put more pressure on educators from every sector to identify and emphasize the most fundamental ideas and skills, rather than trying to teach everything. Increased contact with the real world of work and real-world problems may help us to develop more unified approaches to problem solving across the disciplines; to identify fundamental theoretical frameworks that apply across many different types of systems, from manufacturing to pond life; and to educate students to appreciate and understand both the humanities and the natural sciences.

The use of technology tools may also help to integrate academic and vocational learning. In the science and technology class described, students learn about physics through a hands-on project, and they enjoy methodologies typical of both academic and vocational classes: building, documenting, reflecting, and listening to lectures. The course integrates the use of technology tools of the workplace, a simplified CAD program and spreadsheets. These tools alone will not accomplish integration, but, by their nature, they tend to bring together concepts and practice. Software tools such as these as well as multimedia programs and web page builders appear to be highly motivating factors in learning, a motivation that can transfer to academic content.

Technology skills such as multimedia production, computer graphic arts, web page creation, and systems administration (mentioned in the last scenario) are now being offered both as career preparation classes and as general technology electives for all students, and the fact that these courses are taken by students on both sides of the vocational-academic divide also helps to break down that boundary.

6 How can schools teach for the transfer of learning?

Teaching for the transfer of learning is a challenge that Vo-Tech teachers often understand, but structuring classes to enhance transfer is still not easy. Teachers need contextual examples of the concepts they are teaching, an understanding of how skills are used and evaluated in the workplace, and, often, some version of the tools of the occupation. The point is not that the classroom has to become the workplace, but that selected features of workplace practice, when incorporated into classroom activities, will later function as familiar landmarks when students enter unfamiliar work environments. The transfer of learning can be supported by applying at least three types of technology tools in the classroom: real workplace software tools, simulation software, and the involvement (via telecommunication) of workplace mentors to guide and evaluate student work.

The use of real workplace tools in the classroom—word processing software, spreadsheets, presentation software such as PowerPoint, and basic drawing tools—allows students to experiment with formats that they will recognize when they are called upon to use them again on the job. Using the tools of the workplace motivates students, who enjoy seeing their work in a professional format and can often see their own errors more clearly in such presentations.

In the geometry class described above, students play a software game that simulates construction math and problem solving. With its variations in problem solving, geometric forms, and dimensions, the game lends itself to replay. Students thereby enter into multiple learning strategies that enhance the transfer of learning: they are immersed in a complex situation they must process in order to perform a task (building the pool), as they are provided with advice and reflective thinking about the task from an advisor within the game. This learning experience simulates and helps students to anticipate what would be expected of them in a real work situation.[3] The notion of simulating workplace environments in order to teach for the transfer of learning is the basis of software created by CORD as well as by the SCANS/2000 group led by Dr. Arnold Packer at the Institute for Policy Studies at Johns Hopkins University, and others.

Finally, when students present their work for scrutiny by professionals outside the school, they experience the standards, the vocabulary, and the rigor associated with evaluation in the workplace. In such a situation, learning is likely to be transferred from the workplace exposure to future work, but also, in the near term, to school performance.

7 Providing adequate opportunities for career preparation

Articulation agreements in Vo-Tech programs have created new opportunities for high school students to take advanced and specialty courses at community colleges, which have in turn made arrangements with local industries and/or affiliated advanced technology centers. These partnerships have increased course opportunities for students to some extent. However, as the technology of distance learning advances, opportunities for career preparation in the specialty areas will greatly expand.

How will this be possible? In the past, satellite links have made distance learning a reality, but satellite courses become cost effective only as larger numbers of people participate. More recently, interactive compressed video, a videoconferencing technology that uses high-speed data lines to transmit voice and image, is allowing for more flexible and varied distance learning opportunities. Videoconferencing units are now available at prices that schools and small businesses are likely to afford (as low as $6000 per unit as of this writing), and, as the network of videoconference sites grows, making face-to-face connections among schools and workplaces will become more routine and cost effective.

In relation to changes in distance learning technology, it is worth mentioning a current initiative to build a constellation of low-earth-orbit (LEO) satellites that will surround the earth. The LEO satellites, in contrast to higher-orbit, geostationary satellites, would make ground-based telecommunication wiring and fiber-optics unnecessary and would presumably offer consumers connections adequate for Internet and videoconferencing at a lower cost and greater ease, technologically. This initiative has the potential to make distance learning a low-cost and routine option. The full implications are beyond the scope of this chapter, but one of the most important aspects of such accessible technology is that excellent teachers may come to the forefront as educational service providers. Especially at the community college level, those who have demonstrated the best practices and most effective teaching will have the potential to connect to a vast and distant audience.

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[3] User's Guide, *Math at Work* series.

Distance learning has long been plagued by its "talking heads" reputation, so we must remind ourselves that more choices—of courses, subjects, and teachers—whether in person or via videoconferencing, will not guarantee more learning. Interactivity in distance learning is often heralded but less often achieved, not because of the technology but because up-close and live teaching methods previously also lacked interactivity. Some new models are emerging that address this perennial teaching problem, using both synchronous and asynchronous telecommunication (the latter does not require both parties of an interaction to come together at the same time). The Virtual High School, funded by a Technology Innovation Challenge Grant from the U.S. Department of Education and developed by the Concord Consortium (a nonprofit educational research group) through a regional consortium of schools, is addressing questions of interactivity, assessment, and teacher preparation that will be instrumental in developing netcourses of the future.

The Internet is already beginning to play a significant role in training and development for teachers and other professionals. Professional development specialists can employ interactive videoconferencing, E-mail, web sites, and voice mail to provide professional development for teachers in rural and widely scattered communities. The technology provides opportunities for extending learning, applying it in the context of everyday work, and working through the problems encountered with support and guidance.

8 The Path to Implementation—Guidelines and Cautions

We've described how technology can be applied to some of the problems and challenges of Vo-Tech programs. Neil Postman's question—What is the problem to which this technology is the solution?—was the starting point of this visioning process and ensuing discussion. Postman urges educators to go beyond this initial question, however, and to ask further questions, among them: Whose problem is it? Who will benefit, and who will pay for it? Suppose we solve the problem. What new problems will result?[4] Schools and school systems would do well to incorporate such tough questions into the technology-planning process. The long history of failed uses of technology in schools attests to the fact that hardware and software alone will effect few or no solutions to educational problems. Empty computer labs, closets packed with broken computers, and libraries of unused software found in many schools are sad evidence of the cycle of enthusiastic embrace, rapid implementation, and failure that has attended many attempts at technology integration. This cycle should not surprise us when we consider that the emphasis in the past has been on hardware to the exclusion of the teaching pedagogy or curriculum and without adequate support for the technological infrastructure.

Teachers currently receive little technical, pedagogic, or administrative support for the fundamental changes of the technologically transformed classroom and are left "largely on their own as they struggle to integrate technology into their curricula."[5] Much has been said about teacher resistance to technology, yet, under the circumstances of implementation in many schools, resistance could be considered a healthy response. Amazingly, many teachers have had quite a different and more positive response, and that is to take whatever technology is available (or can be begged and borrowed) and to create a dynamic learning environment. These teachers are the innovators represented by the teachers in the scenarios presented here. They have shown us the ways in which technology can be used to improve learning.

The goal of the integration of technology into Vo-Tech programs is to improve student achievement and to help students become lifelong learners. To integrate technology effectively, the classroom teacher must be recognized as the primary agent of change in the learning process.

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[4] Carolyn R. Pool, "Perspectives/Centuries of Learning," *Educational Leadership*, Volume 55, Number 3, November 1997, page 5.

[5] *Report to the President on the Use of Technology to Strengthen K-12 Education in the United States*, President's Committee of Advisors on Science and Technology, Panel on Educational Technology, March 1997.

Implementation thus should be centered around the needs of the classroom teacher. These needs, described earlier, may be summarized in the following guidelines for technology implementation:

Teachers must be collaborators in the integration of technology into instruction from its inception. Teachers need to be involved in the development of the instructional vision into which technology use will be incorporated. As stated in *Technology and Education Reform*, "good curricular content comes first."[6] Beyond content, teachers need time to plan for changes in the pedagogical approach and to participate in the evaluation, especially formative evaluation, of changes.

Teachers must have support for learner-centered approaches that technology can facilitate. Technology can facilitate and, in some cases, promote learner-centered approaches to teaching such as project-based learning and independent investigation. If teachers are to use technology in these ways, they need support as they shift from a directive, teacher-centered approach to a more interactive, learner-centered model.

Teachers must have adequate training in the "hands-on, how to" aspects of technology. Teachers need training and support to achieve a comfort level with hardware and an adequate knowledge of the software they use.

Teachers need adequate support for the technological infrastructure. Teachers cannot be responsible for the maintenance, repair, and replacement of the system and its components, including computers, data transmission lines, and software. Technology planning must account for these functions.

A process of implementation based on this list will raise some of Postman's questions, with regard to the problems technology can solve. "Whose problem is it?" "Who will benefit?" The list also gives the considerations that must be included in order to answer the question, "How much will it cost?" Educators will have to be realistic about costs and to honestly address the question of who will pay for it. Educators as well as the public are right to ask whether technology will be implemented at the expense of other educational priorities. For example, Vo-Tech teachers will not want to trade equipped laboratories and machine shops for computers, and for good reason. The hands-on aspects of contextual learning remain an important component of the Vo-Tech approach, and hands-on-the-computer is not a replacement for hands-on-actual-materials.

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[6] *Technology and Education Reform*, page xxi.

Finally, Postman cautions educators to consider: Suppose we solve the problem. What new problems will result? One way educators can build in some protection against the new problems that result is to implement change at a reasonable rate; another is to build in formative and summative evaluation at appropriate intervals throughout the implementation process. Formative evaluation may include one-on-one observations and interviews with teachers and students using technology, as well as self-evaluation of the learning process. Within the structure of implementation, opportunities should exist to report on and revise the technology plan.

In summary, technology can support the Vo-Tech vision and the overall philosophy of school reform. Technology can provide tools for independent and cooperative learners and can extend the context of learning beyond the physical boundaries of the school. For the promise of technology to be realized, the basis for technology implementation must be the instructional vision, the experience of the learner and the curriculum content must remain central to that vision, and the teacher must be recognized and supported as the agent of change.

THE LONG DISTANCE LEARNING FOR TECHNICAL EDUCATION

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Some students are enrolled part-time and a majority of the part-time students are place- bound and time-bound persons who need accessible and effective ways to obtain access to educational opportunities and resources through technology. They see technology sweeping across society. Many use it in their place of work and have it in their homes and, consequently, expect the same capabilities for their educational goals and objectives.

In addition to this, it is important problem to establish university education in developing countries required extremely technical education. In this countries new technical colleges don't have enough well educated instructors, so education is carried with people who don't have enough abilities in their fields.Long distance learning is a good vehicle to use a few well educated instructors effectively. In this process one instructor can teach a large number of students in different places, at the same time. This makes the problem lessen for new colleges in developing countries.

College instructional programs provide students with the breadth of experience and depth of expertise to succeed in their chosen fields.

- Learning is an important lifelong process for an abundant and productive life as a student as a person, as a worker, and as a citizen.
- Distance education can be a vehicle for institions to remain innovative and flexible
- Distance education can be an effective means of teaching and learning
- Distance learning environments integrate instruction, instructional support services, and student services to foster student success

- Relevant and affordable public access to quality college programs and services is key to reducing social and economic barriers to higher education
- Time, place, and delivery format should not restrict potential students from achieving their educational goals
- Individual colleges are responsible for local and decision-making for programs and services
- Student diversities collectively enrich learning and community building
- Learner autonomy and self-directed learning are recognized and supported
- Interpersonal communications and interactions are key to building learning communities

BACKGROUND

Distance learning has been employed as an alternative to traditional, campus-based, classroom instruction for over a century. Dating back to the middle 1800s, instructional content and student responses were delivered by the postal system. Commonly known as " correspondence courses." Many citizens located in rural or remote geographical locations were able to access educational offerings that would have otherwise been unavailable. Over the years the format and structure of these early correspondence- based distance learning application changed with the advent of new technologies that were capable of reducing turn-around time as well as increase interactivity for both students and teachers. Audio and video resources such as film, cassette tape, radio , and television slowly augmented or replaced the original correspondence course formats.

By the late 1960s and early 1970s significant changes in distance learning occurred due to development of new media technologies and delivery systems,. AIM project (The Articulated Instructional Media). British educational policy makers, established the British Open University (BOU) in 1969 as a fully autonomous, degree-granting institution. As a result of the success of the BOU, it has become a model for the development of similar distance learning institutions around the world.

In 1982 the National University Teleconferencing Network (NUTN) was begun at the Oklahoma State University for the purpose of delivering distance learning. Forty other institutions participated and agreed to work together to plan and deliver educational programs by satellite. Ultimately, the NUTN was established with membership from 66 universities and the Smithsonian Institution and based at Oklahoma State University. In 1994 it moved to a new site located at the Old Dominion University. Success of the NUTN was due to the flexible structure and local autonomy among the members that it provided.

As a result of the development of new technologies, including computer conferrencing, the internet and two-way audio and video-conferencing, distance learning delivery system had evolved by the middle 1990s to a state of relative reliability , viability, and ease of use in colleges and universities, at home and in the work place . Expanded services in support of the learner and the learning environment heretofore impossible are now becoming routine throughout American higher education.

According to J. Lever [1], of the 618 community colleges across North America responding to a 1993 survey on distance learning practices, 313 indicated they currently had a distance learning program in place, with video, print, audio, and telephone conferencing representing the top four types of delivery media

Colleges, not reluctant about experimenting with alternative methods of instruction that meet the needs of their constituents, are engaged in pioneering workable models that move learning out of the classroom to the learners" according to Don Doucette,.[2]

PRESENT STATUS

Typically, today's distance learning application " takes the value and objectives of traditional courses and uses technologies of the Information Age to address the needs of a broader and more complex educational market" , according to Henry Kelly.[3]

In the June 1996 Western Governors' Association meeting, the WGA has stated that it intends to:

1 expand access to higher education through electronic means and methods,

2 foster interstate and public-private cooperation in the use and development of advanced technology-based instructional materials, courseware, and programs,

3 assist in the removal of barriers of time and place that impede the free function educational services,
4 to establish a local WGA center in each participating state.

Distance learning provides opportunities to enhance and enrich student learning. Current distance learning technology enables students to easily interact with colleagues and experts in foreign lands. Faculty can bring " just-in-time" education to the classroom through satellite transmissions.

For example: Mechanical technology students can access online automotive parts and instruction manuals. Personalized Place-bound and time-bound students can complete the same Associate of Arts (AA) degree or professional/technical program from a remote site that is available on a campus, and do so at a variety of colleges. Personal interaction with classmates, faculty and staff can made available through a variety of technologies, including electronic mail and video conferencing.

Students exercise choices to match learning options with personal learning styles, abilities, and circumstances.

PURPOSE OF HOST AND PROVIDER COLLEGE

The purpose of the Distance Learning Host/Provider Framework is to establish a general consortium partnership for the development and delivery of distance learning courses to students throughout country. It outlines a funding/ operational model for college participation as a host college, a provider college, or both. It provides an equitable mechanism to fund distance learning services supplied by host colleges as well as distance learning course development and operations supplied by provider colleges.

ESTABLISMENT COST OF LONG DISTANCE LEARNING PROGRAM

For full motion video , college needs fiberoptic telephone lines or digital satellite. The telephone lines charge per station is $1,500 per month. Cost to outfit a room with cameras, monitors, etc about $50,000. Development for a distance learning class is 5 to 10 hours of preparation per hour of lecture. Some courses can now be purchased for about $1,500-$2,000 per course. The equipment cost for one college is $60,000 minimum .

BENEFITS TO STUDENTS

- Greater diversity of learning options
- Broader access to a wider range of courses/programs
- Better instructional support through host colleges
- Potential reduction in time to completion of degrees/programs
- Better tracking for residency /financial aid/degree & programs completion.

BENEFITS TO HOST COLLEGES

- Better services to students
- Costs recovered for services rendered
- Minimal "upfront" costs
- Enriched/expanded curriculum opportunities
- Course/program development cost savings
- Scaleable and selective participation
- Marketability/public relations potential
- Retain links to local students enrolling in remote classes

BENEFITS TO PROVIDER COLLEGES

- Financial incentive for development of distance education courses
- Recovery of distance education infrastructure/operational expenses
- Supports faculty in transforming teaching and learning
- Establishes a competitive advantage vis-a-vis private or out-of-state organizations

BENEFITS TO COUNTRY

- Minimal investment required
- Rewards results
- Requires no additional administrative structure
- Leverages existing resources and expertise

DISTANCE LEARNING RESOURCES, SERVICES, ROLES AND RESPONSIBILITIES

HOST COLLEGES ROLES AND RESPONSIBILITIES

Host colleges:

- Designate an intra-college distance learning coordinator.
- Designate a campus contact for student inquiries.
- Provide test proctoring.

- Identify technical support options for students.
- Distribute information on local distance learning services and resources (e.g., Internet Service Providers).
- Provide at least one " distance learning information / demonstration workstation" at each college learning center to inform and orient students to distance learning opportunities and options. Each center of an Internet-accessible multimadia computer with appropriate peripheral devices.
- Cooperate with provider colleges for library services and library support for distance learning students.
- Coordinate distance learning enrollment and financial date with provider colleges.
- Coordinate with provider colleges to distribpute textbooks and learning materials distance learning student.

PROVIDER COLLEGE ROLES AND RESPONSIBILITIES

Provider colleges:

- Designate a distance learning point of contact for host colleges.
- Deliver a course of instruction that complies with governing accreditation standards.
- Provide a qualified instructor who is skilled in both subject content and distance learning methodologies.
- Develop a projected yearly schedule in a timely manner for host colleges.
- Develop a finalized term class schedule in a timely manner for host colleges.
- Be a point of contact for host colleges for course-related textbooks and materials.
- Provide host colleges with technical specifications and support information required for course access.
- Distribute distance learning information and support materials to host college.
- Provide host colleges with distance learning course promotional material.
- Cooperate with host colleges for library services and library support for distance learning students.

INSTRUCTIONAL CONSIDERATIONS

Educational quality needs:

- All distance learning courses should be competency-based and include clear, measurable learning outcomes.
- All distance learning courses and programs should be coherent, comprehensive, and developed with appropriate discipline and pedagogical rationale.
- Each distance learning program should provide for significant interaction between students and faculty and among students, whether real-time or delayed.
- Institutions should ensure that appropriate evaluation procedures are in place, that faculty include distance learning students in regular course evaluations, and that data from evaluations are reviewed and used to make course and program improvements.
- the host college has primary responsibility for establishing and monitoring administrative policies and procedures, as well as offering student and instructional support services, while the provider college has primary responsibility for course development, and delivery of instruction, assessment of student progress, and grading.

1 RESULTS

Today distance learning environments are beginning to emerge that are based entirely on the notion of providing education at a distance to anyone at anytime at anyplace.

Many members of the country population live far away from university. Whatever form the college takes, its purpose is educational service to the entire community, and this purpose requires of it a variety of functions and programs. It will provide college education for the youth of the community certainly, so as to remove geographic and economic barriers to educational opportunity and discover and develop individual talents at low cost and easy access. But in addition, the community college will serve as an active center of education.

Long Distance learning missions are open access, educational excellence, equity of opportunity, and responsiveness to educational needs.

The Technical Education fulfilling that mission in light of increasing economic, political, and social pressures is a challenge confronting the every colleges as they transition into the next century. While it is imperative that they move forward to meet future challenges and opportunities.

The richness of options and flexibility of deliver inherent in distance learning make it an invaluable asset in helping students achieve their educational goals and objectives.

Although first establishment cost of long distance learning is excessive at the colleges where this programme is applied success and quality in education have been seen increased.

REFERENCES

1 J.Lever, Distance Education resource Guide,7,p.xvii.

2 D.Doucette Syllabus,9,p5.

3 H.Kelly, The Journal, 18, p 60.

A STUDY ON THE CAREER MATURITY IN VOCATIONAL HIGH SCHOOL IN TAIWAN

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Introduction

Given that vocational high schools have long been an important channel for learning under our educational system, a practical study on the maturity of vocational high school students in terms of career development and career planning will benefit not only students but also teachers and authorities concerned. It is expected that students who are interested in vocational education will thus be better-prepared prior to their enrollment, and the teachers at vocational lhigh schools will improve their teaching methods and teaching skills to better educate their students. What's more, the study on career maturity of vocational high school students will also serve as a reference for school authorities and educational administrators in their policy-making regarding career guidance and advanced learning. It is to be hoped that the development of vocational education can be boosted, and progress in our education as a whole can be made.

In this study, it is through literature review that theories and applications about career development and career planning are first analyzed to derive the real meanings of caree maturity. Research methods such as questionnaires and interviews are then adopted to colelct information about the career maturity of vocational high school students. Lastly, conclusions and suggestions are made for students, teachers, parents, and educational administrators in the hope of enabling our vocational education to attain its fullest development.

Objectives

Specific objectives of this study on the maturity of vocational high school students include:

1. designing a proper scale of career maturity for the vocational high school students in Taiwan.
2. exploring the career maturity of the vocational high school students in terms of their career development and career planning.
3. analyzing the factors that contribute to students' career maturity.
4. establishing a career maturity model of vocational high school students in Taiwan.
5. offering suggestions for students, teachers and educational administrators involved in vocational education to improve their learning, teaching, or policy-making.

Methods

Research methods such as questionnaires and interviews are adopted to collect authentic data from vocational high school students. Comparison and statistical analysis are also made to derive objective conclusions.

Sample

Students involved in vocational education in public or private high schools are the focus of our study. According to stratified random sampling, a total of 10,500 students in 66 different schools are chosen for our questionnaires and interviews.

Conclusions

1. Students exhibit high interest in advanced studies and a strong desire for a vocational certificate

According to our survey, 64% of the vocational high school students are planning to pursue their further studies. Among them, there are more male students than female students, most of whom prefer to study and work on a part-time basis. However, 96% of the total students recognize the need to have special skills. They'd also like to obtain a vocational certificate.

2. Most students show a lack of self-confidence and self-understanding

A mere 55% of vocational high school students show confidence in their future. 58% of students would improve themselves constantly, and 59% of students would pay attention to the changes in the labor market.

3. Students from families with low social and economic status are highly expected by their parents.

Among the total students, only 6% of them are from families which enjoy higher social and economic status, 65% of students come from families with social and economic disadvantages. Despite their backgrounds, 62% of students bear expectations from their parents, while an extra 37% of students are highly expected.

4. The factors contributing to career maturity are different and complicated

Career maturity of vocational high school students varies with their academic performances, expectations from their parents, interest in their majors, as well as their aspiration for higher education. Overall speaking, the academic performance is an important variable that determines students' maturity in career development and career planning. Career maturity are better shown in students who have good academic performances. Vocational high school students qho are in their senior year, have aspiration for advanced learning, or go to school located in metropolitan areas are also more mature in their career development and career planning.

5. Students value professional skills and show correct career-cognition

Although almost all students at vocational high school have a positive idea of career development and career planning, they value professional skills the most, followed by career concept, work awareness, career confidence, career planning and vocational concept. In terms of career development, 46% of students are profession-oriented, 26% preparation-oriented, 16% action-oriented and 12% confidence-oriented.

6. Career Maturity is mainly different with each individual or his/her family

Contributing factors of career maturity for vocational high school students are self-concept, career confidence, career-cognition, career exploration, career planning, professional skills, vocational concept, and work awareness. Among them, self-concept, career confidence, career exploration, and professional skills are more influential, followed by career planning, and vocational concept. The finding helps establish a system model of career maturity for vocational high school students. It also offers the required logical thinking and priorities to enhance the career maturity of vocational high school students.

Among variables manipulating career maturity of vocational high school students, those regarding individuals such as academic performance, career planning after graduation, or those regarding family like social and economic status, expectations from parents are all factors with decisive powers.

7. The instrument is useful for evaluation, and can differentiate the direction of career development

This study is meant to determine the career maturity of vocational high school students. The scale of career maturity was first designed according to related literature. IT was then tested and evaluated by experts. Item analysis and factor analysis followed next. Finally, a system model of career maturity was then established. This scale of career maturity can be applied to vocational high school students to determine their career maturity as well as its underlying causes.

Suggesitons

A. For students:

1. to cultivate positive self-concept and career confidence.
    a. value advanced learning over diploma-chasing.
    b. obtain a vocational certificate.
2. to develop personal career planning.
    a. collect information and make good use of it.
    b. set specific goals.
    c. take advantage of career resources.

B. For schools.

1. to carry out career guidance and cultivate positive career cognition.

a. equip students with positive vocational concept.

b. Nurture working sentiments.

c. Provide career guidance.

d. Emphasize knowledge of career education.

e. Seek vertical coordination with career guidance.

2. to respect each individual and bring out his/her potential.
    - a. understand the learning motives and career needs of students.
    - b. Pay attention to individual differences among students.
    - c. Help students colelct information about career development.
    - d. Help students adopt a positive attitude toward career development.
    - e. Engage students into activities for career exploration.
3. to foster workethics in students and enhance their career confidence.
    - a. reinforce work-related moral education.
    - b. Take special care of younger or rural students who have negative self-concept.
    - c. Value affective education.
    - d. Promote achievements of students in career learning.
    - e. Invite employers or enterprisers for seminars of career guidance.
4. to show consideration for students and build up their self-respect.
    - a. boost confidence in learning and career.
    - b. Integrate peer groups.
    - c. Impose high expectations.
    - d. Offer encouragement instead of discouragement
5. to enable students to enhance their professional skills and make use of what they have learned.
    - a. strengthen education for professional skills.
    - b. Improve teaching strateies.
    - c. Diversify teaching activities.
    - d. Initiate reforms of rigid curriculum.
    - e. Promote the certification of special skills.
6. to enable teachers to enhance their professional knowledge.
    - a. encourage teachers for self-initiated in-service learning.
    - b. Promote cooperation programs between corporations and schools.

c. Reinforce the knowledge of career guidance in tachers.
d. Upgrade professional knowledge of teachers.

C. For parents:

1. to reinforce the educational functions of family.
a. reinforce the family values.
b. Promote parent-child learning programs.
c. Reshape family education.
2. to improve family education.
a. value communicaton between teachers and parents.
b. Impose proper expectations upon children.

D. For educational administrators:

1. to adjust the goals for vocation high school.
a. improve school education.
b. Solve problems regarding diploma-centered learning environment.
c. Facilitate channels for advanced learning.
d. Promete the establishment of two-year college open to vocational high school students.
e. Delay division or separation.
f. Expand channels for in-service learning.
g. Add courses like career planning or career exploration into general education.
2. to birng certification system to effect.
a. value the importance of certification system.
b. Build dynamic alliance between industry and academia.
3. to bring about reforms on educational budget and facilities.
a. bridge the gap between urban areas and rural areas.
b. Strengthen the development of private schools.

NEW DESIGNS FOR VOCATIONAL EDUCATION AND TRAINING AT THE UPPER SECONDARY AND POSTSECONDARY LEVELS OF EDUCATION

a paper to be presented by

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This paper presents recommendations for the design of 21st century upper secondary and postsecondary institutions of higher education that are responsive to the changing nature of work and the workforce. Design specifications address institutional signature, outcomes, learning process and organization, partnerships, staffing, technology and environment, celebration, and finance. For each element, exemplary practices are illustrated and attention is given the process of making the needed transformations.

On enter the 21st Century what should be the design of an up-to-date two-year institution of higher education (i.e., upper secondary vocational education, community or technical college/institute, college of further education, polytechnic college, and proprietary technical schools)? What would make it responsive to the changing nature of work and the workforce? What should the learning experience be like? How should the institution be organized? Who should be the staff and what should they be doing? What should the facility look like and how should it be furnished? And, how should the institution be financed so as to operate effectively? These are the questions addressed in this paper.

This paper is based on a research and development project entitled New Designs for the Two-Year Institution of Higher Education (NDTYI) funded over the past three years by the U.S. Department of Education through the National Center for Research in Vocational Education headquartered at the University of California, Berkeley. The work has benefited from visiting educational institutions and conversations with educational professional in the Australia, Canada, Germany, Greece, Japan, Netherlands, Taiwan, and United Kingdom. The products of NDTYI are a design process, design specifications, and exemplary new designs for continuing to improve community colleges, technical colleges, and private proprietary schools in the United States. Concepts from the study have also been applied in other countries. These products form a package developed to assist an institution in continuing to improve, given its current design and local context.

Design Process

The **design process** provides a road map to follow in addressing design questions in an order that gets "first questions first" so as to retain focus on the local context of the institution, it uniqueness, and desired learning outcomes. The process also insures careful alignment of all major components of the institution in order to gain high quality and efficiency.

Design Specifications

The **design specifications** form a set of desired characteristics or features for each major component of an effective 21st Century two-year institution of higher education. They serve as a vision for what might be ideal, creating new "thinking space" for the design of an effective two-year institution of higher education and criteria for assessing the current state of an existing institution. In developing the design specifications, we proposed to start from "scratch" with few assumptions about what was needed and how needs should be met, always questioning conventional thinking and practice. The resulting design specifications are to serve as a way to stretch thinking and stimulate responsible critique of current practice.

New Designs

The **exemplary new designs** serve as a way of clearly describing the design specifications "in practice." The exemplary new designs were selected to concretely illustrate what NDTYI has in mind and to provide 'benchmarks" for reviewing current institutional operation. For some phases of the design process, we developed actual new designs for institutional practice. For other design process phases, the project used a different route--identifying and describing actual institutional practices that met some of the proposed design specifications.

Project Results

What follows is a brief sketch of new designs for two-year institutions of higher education. The sketch is organized by the phases in the design process. For each phase, a brief explanation is provided along with either a section of the design specifications or an exemplary new design. This tact was taken because, even with limited space we wanted to give a comprehensive view of the NDTYI products. The final project report to be available right after the start of the new year is much detailed and complete.

The design process was made up of ten elements, executed in a particular order, referred to as "designing-down." The elements were addressed in a particular order so as to get careful alignment among the elements and to get "first questions first." The idea is to insure that the design fits the needs of the situation and proceeds in a logical order from aims to actions to supporting structure, culture, and environment.

Learning Context

Each design for a two-year institution of higher education must meet the needs of a particular context or situation. The context is described in terms of problems with current institutional operation, opportunities to be taken advantage of with an institution, and goals to be accomplished by the institution. Studying and analyzing the learning context results in a set of design criteria for use to guide and monitor the accomplishments of the other design process elements.

Learning Signature

Learning enterprise designs are given direction and energy by the symbols and metaphors representing the hopes and expectations of policy makers, educators, and their students. An effective design process must first try to elicit and understand these hopes and expectations as a way to give coherence and focus to learning design. Often the signature takes form through symbols and metaphors (i.e., words, pictures, people, stories, objects) representing a deeply shared perspective on the learning enterprise.

Learning Outcomes

Globalization and its associated complexity demand that two-year institutions of higher education have a clear idea of the value to be added by the learning enterprise as a starting point for program improvement. In short, two-year institution leaders must clearly know the competencies, standards, or results they want to produce for and through the learners. At the same time, students must be able to see what two-year institutions can do for them in terms of their personal development.

Learning Process

Learning outcomes are accomplished through the design of an appropriate learning process, traditionally viewed in terms of the language of curriculum, instruction, and assessment. Too often in higher education, the attention is to teaching in contrast to learning and to subject matter (curriculum) at the expense of instruction and assessment. Most faculty in higher education are not required to study the learning process -- instead they center almost solely on subject matter. If two-year institutions are to address the learning design challenges and opportunities of the future, they must have a working language and knowledge of the learning process with foundations in adult development. The learning process advocated by NDTYI focuses on relevance, involvement, engagement, and a constructivist perspective.

Learning Organization

For the learning process to be successful in reaching the learning outcomes in a manner called for by the learning signature, a learning infrastructure or organization must be put into place and continually improved. The learning infrastructure is made up of the organization of learners, learning time, learning settings, subject matter, staff, technology, and learning environment. It is here that new designs for two-year institutions are most clearly visible. Familiar physical and organizational forms of higher education are unlikely to be responsive to the needs of students and the changing nature of society and its lifeplaces (e.g., work, family, community).

Learning Partnerships

The link between higher education institutions and their communities takes the form of learning partnerships among public and private sector organizations. Two-year institutions can no longer "go it alone;" they have neither the resources nor the knowledge to be set apart from their surroundings. Instead of the "ivory tower" of the past, higher education institutions of the future will be ever more closely integrated with their communities and will bear increasing responsibilities for the quality of life of those who support and benefit from its work.

Learning Staff and Staff Development

The changed perspective suggested above mandates parallel development of teachers, administrators, and support personnel ready to adapt two-year institutions to new realities. Higher education will need to identify, train, and support leaders who can shape curricula and student experience in forms indicated by ever-changing learning expectations and processes. The staff must include all those involved with the partnerships of the institution.

Learning Environment

The driving force for higher education has shifted from the traditional - static - subject matters to a dynamic view of knowledge and its use. Information technology has been and will continue to be a pivotal force in this development; it has redefined the process of knowledge creation, transmission, and application. Learning technology has become one of the major considerations in any new design for the learning environment for two-year institutions of higher education. After consideration of the design elements noted above, attention shifts to the physical and social environment of the institution. New designs will not be constrained by architectural forms nor will they be limited to traditional educational practices; they will be motivated by the dynamic integration of higher education institutions with their students and communities. Learning environments will include consideration of settings such as home, workplace, community, and campus. The framework for the learning environment proposed by NDTYI provides for the individual learner, a learning work group, the learning enterprise, a federation of learning enterprises, and a world-wide learning network.

Learning Celebration

The New Designs process is integrated by the cultural symbols and practices of all those associated with the two-year institution of higher education. Learning experiences and their applications should be continually reinforced through celebrations whereby the community confirms the relevance of the work of higher education.

Learning Finance

This element of the New Designs process concerns both the cost and revenues for higher education. Key strategies concerning cost include cost containment, improved efficiency, re-engineering, and external sources of services. On the revenue side, strategies include institutional development, new products and services, partnerships, and new markets.

While the elements of the design process are presented in linear, downward order, the process also involves moving upward and among the elements to ensure close alignment and internal consistency and coherence. Close alignment of the elements is needed to realize quality and efficiency in operation of the two-year institution of higher education.

Project Process

The design process is envisioned as being like a seminar where knowledge and experiences are shared among a design group with the purpose of mutually learning their way into new designs for a higher education institution that meet the needs of the context they have at-hand. The knowledge and experience includes that possessed by the group itself as well as what can be brought to the groups from others. In New Designs for the Two-Year Institution of Higher Education, several sources of information served as ingredients to the design process.

Best Professional Practice

Care was taken to scan nationally and internationally to identify the best professional practices in two-year institutions of higher education. We looked for the effective and innovative places, leadership, and concepts for possible use in developing New Designs specifications for each of the elements of the design as described above. At each design element, we also looked to professional practices outside of public higher education for ways that could improve the design process and specifications.

Latest Research

We also searched for the latest research on higher education relating to each of the design components. As with the scan for best practice, we also search for ideas and concepts from outside of higher education that might prove worthy of adaptation. We particularly examined the past and present research and development work of the National Center for Research in Vocational Education for study findings and recommendations that were appropriate to include in New Designs specifications.

Reform Reports

We examined several of the reports advocating revision and reform of two-year institutions for recommendations and supporting rationale that deserved consideration in the design process. We wanted to insure that we were making use of previous studies and planning of two-year institutions and were not merely reinventing what had already been reported. Sometimes these reports addressed only a certain element of the design process--our contribution was unique in addressing the full range of elements and striving for alignment in the recommendations among all of the elements.

Focus Groups

Group interviews were used in the design process in order to get first hand views of many of the design elements. Interviews were held with groups of students, faculty, administrators, and external institutional partners.

National Design Group

The national design group was selected to give broad representation of leadership and stakeholders in the future of two-year institutions of higher education. They were also selected to give diverse perspectives in terms of gender, ethnicity, and geographic location.

Future Plans

New Designs has moved into dissemination, training, and implementation activities. The final project report (400 pages), executive summary (20 pages), and report of benchmark practices (100 pages) are now available through the National Center of Research in Vocational Education. As a part of this presentation, more details will be presented on the learning environment and two applications of the design process to vocational education and training—one in the United States and the other in The Netherlands.

NEW DESIGNS FOR HENNEPIN TECHNICAL COLLEGE EDUCATION FOR EMPLOYMENT AND A LIFETIME OF LEARNING

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Hennepin Technical College is the largest two-year technical college in the Minnesota State Colleges and Universities system of 36 colleges and 53 campuses. Located in suburban Minneapolis, the college was founded in 1972. College programs and services are also provided at three other locations and business and industry sites. Hennepin Technical College enrolls approximately 6000 post-secondary students, 1000 high school students, and 10,000 customized training students annually. The College's revenue budget is $34 million.

New Designs Planning

During the 1996-1997 school year, a planning process was undertaken to coordinate and support the development of an overall design to continually improve Hennepin Technical College and strategically position it for the future. The planning process was done by a design group of 46 individuals who represented key college and community stakeholders. Participating in the group from the college were administrators, faculty, support staff, and students. In addition, over 20 community members served as members of the design group. Another 35 community members were interviewed individually or participated in focus groups. Organizations and groups, which were represented, included K-12 and post-secondary schools, heads of business and industry, members of labor organizations, interested citizens, and representatives from community-based organizations. The design process addressed Hennepin Technical College's learning context, learning signature, learning outcomes, learning process, learning organization, learning partnerships, learning teams and team development, learning environment, learning finance, and learning celebration.

Mission

The mission of Hennepin Technical College is to provide quality technical education needed for employment in an ever-changing work environment. Hennepin Technical College fulfills its mission by offering Associate in Applied Science degrees, diplomas, and certificates in occupational fields that do not require a baccalaureate degree for entry. The College facilitates lifelong learning by offering programs which are specifically designed to expand the knowledge and skills needed by adult learners for job retention, enhancement, or advancement. The College offers flexible and non-traditional evening and weekend classes along with its daytime schedule.

A Study of the Learning Context

As a base for the New Designs strategic planning process, a study of the learning context of Hennepin Technical College was conducted. Data was gathered through interviews of community and business leaders. The data gathered was used to create the design criteria.

The interview data gathered from 15 qualitative interviews of community and business leaders was analyzed for indigenous themes. The themes are summarized in the following figure.

Summary of Indigenous Themes.

INDIGENOUS THEMES	WHAT SHOULD HENNEPIN TECHNICAL COLLEGE PAY ATTENTION TO:
"Try to Stay Out in Front"	Rapid changes and a shifting of "old ways" was a common feature of this theme. Work has and is changing and the profile of workers is changing. "New knowledge" and retraining is part of this change.
"Roll with the Punches"	The only constant will be change. The future may be bumpy and leaders must be able to roll with the punches in light of changes in higher education. "Try to open up your thinking, don't rely on what has worked for the last fifty years."
"Invent the Future with Customers"	Hennepin Technical College must remain fluid and open to new ways of serving its multiple customers. "The college should understand the forces and take advantage of the winds of change." "It's inventing the future with your clients."
"Pull Out all the	"Define diversity so that it is meaningful, mutually beneficial,

Stops on Diversity"	equitable and so the workplaces can resonate to it." "Diversity is critical to our success."
"Serving as Bridge to Economic Development	"Hennepin Technical College plays a role in becoming a bridge between the larger educational community and business and industry." "The workforce shortage is an extremely important piece of information that we need to pay attention to." Leaders say, "There are some niches we can get into in economic development with the new colleges of technology."
"Create an Awareness of Opportunities, Image Will Follow"	"Technical colleges have been lacking in public awareness about the role they really do play. Image is what people think about you, awareness is what people know about you." The advice given by leaders is, "Do good and word-of-mouth takes care of image."
"Be a Learning Store"	"Very emphatically colleges need to pay attention to where the jobs are going to be, what are the occupations of the future; employers don't know what they need, but when they need it, they need it immediately." A leader characterizes the college as, "A kind of learning store.
"Constantly be in the Dating Game for Partners"	A leader characterized partnership formation as a constant dating game. "There has to be that rejuvenation." The college must decide which partnerships are best and compliment the college." "All technical colleges need to reach outside and pursue resources."
"Push the Curve with Technology"	"Colleges should be pushing that curve and knowing the latest things." The orientation and the love of knowledge. The term *technology* is strategic and more appropriate for the future than *technical*.

A second analysis of the interview data was conducted using the construct typology of the New Designs for the Two-Year Institution of Higher Education (NDTYI) (Copa and Ammentorp, 1998). The analysis focused on the learning context. The NDTYI learning context focuses on four dimensions when analyzing context data: opportunities, assets, constraints, and aspirations. The following figure provides a sample of the way the data was analyzed using this construct.

Example of Analysis of Interview Data Using
New Designs for the Two-Year Institution of Higher Education

1 **LEARNING CONTEXT DESCRIPTORS**	"TRY TO STAY OUT IN FRONT" INDIGENOUS THEMES
Assets to be carried forward into the future	Metropolitan demographics are changing

Problems with the current institutional operation	Colleges unable to fill in learning gap of high school students
Opportunities to be taken advantage of in the New Designs	Life long learning is critical
Aspirations to be accomplished by the institution	Train workers to fill the worker shortage needs

Recommendations

The following is a summary of the recommended design specifications for directing the future development of Hennepin Technical College.

The Design Group formulated the following design criteria to guide the development of the design specifications for each of the elements that follow in the design process:

- Improving focus on and responsiveness to learners
- Increasing the number and new forms of partnerships
- Improving access to services
- Maintaining and improving dedication and quality of a diverse faculty and staff
- Enhancing public opinion and awareness of HTC
- Identifying and making appropriate investments in core programs/skills
- Improving funding for technical and related training
- Improving flexibility to deal with changing context
- Improving attention to accountability for learning and the institution.

The following are selected recommendations in each of the design elements:

Learning Outcomes

Hennepin Technical College learners will:

- Take pride in work
- Manage transitional/change
- Use technology competently and adaptably
- Recognize and value others
- Take personal responsibility for continuous learning
- Manage work and other areas of life

- Think entrepreneurially
- Think critically and solve problems creatively
- Communicate ideas.

Learning Process

Hennepin Technical College should ensure that the learning process:

- Focuses on and is directed by the learner
- Leads to action (on the part of students) and learning products
- Uses flexible (learning) systems
- Integrates subject matter areas (disciplines)
- Views faculty/staff as mentors, facilitators, and role models
- Uses multiple assessment techniques.

Learning Organization

Learners should be organized in settings that:

- Mirror work settings
- Support being successful—using peers and mentors
- Integrate subject matter areas
- Encourage exposure to a wide variety of viewpoints
- Facilitate lifelong learning.

Resources should be organized with attention to:

- Using clear criteria for allocation
- Supporting institutional goals
- Providing an "open book" policy to foster understanding throughout HTC.

Learning Partnerships

Learning partnerships at Hennepin Technical College should:

- Involve partners who share values with HTC
- Encourage creativity, innovation, and resourcefulness
- Lead to mutual benefits resulting in commitment, willingness, availability, and affordability
- Add knowledge relevant to needed learning, be up-to-date, and focus on the future
- Challenge ideas and support being outspoken on best practices
- Support flexibility, openness to change, and risk-taking
- Provide diversity in function, program areas, location, and culture.

Learning Teams and Development

Learning teams at Hennepin Technical College should ensure:

- Commitment to HTC's mission, values, and student learning
- Expertise in areas of need
- Knowledge of learning processes
- Understanding of learners' needs
- Valuing of technical education and liberal arts
- Willingness to partner, ability to relate, sensitivity, empathy, a sense of humor, a positive attitude, and tolerance of others
- Openness to new ideas, risk taking, and entrepreneurial spirit
- Valuing lifelong learning
- Communication and leadership skills
- Connection to industry, and understanding of profit motive
- Understanding of the global perspective
- Flexibility in hours and tolerance of others
- Ability to set priorities.

Learning Environment

Learning technology should:

- Be relevant to learning needs
- Be up to industrial standards
- Be accessible.

Learning facilities should:

- Support the use of learning technology
- Allow flexibility for change
- Be comfortable, attractive, user friendly
- Be conducive to teamwork
- Include community-based (off-campus) learning settings.

Learning Finance

Learning Finance specifications for Hennepin Technical College should include:

Cost Focused Strategies:

- Share with other institutions
- Give attention to priority setting
- Process documentation and reworking
- Ensure early evaluation of programs
- Increase student retention
- Increase use of off-campus sites.

Revenue Focused Strategies:

- Provide training and consulting services
- Increase partnerships—new and leveraged resources
- Develop HTC foundation
- Actively pursue external grants.

Combined Cost and Revenue Focused Strategies:

- Explore profit centered management
- Maximize opportunities of distance learning, with HTC as both importer and exporter.

Learning Celebrations

Learning celebrations should:

- Recognize learning—growth and accomplishments
- Attend to past, present, and future
- Be timely, casual, inviting, and accessible
- Be part of the culture of HTC
- Recognize all partners and stakeholders.

New Designs Implementation

The implementation of the New Designs began immediately following the release of the design team report in August 1997 at an all-staff fall workshop. The plan was launched as part of a college learning celebration. Faculty and staff were encouraged to get involved, take risks, and think "outside the box."

In 1997, Hennepin Technical College changed its organizational structure to reflect the learning team concept that evolved from the New Designs process. With the change of the faculty contract, the option for faculty governance was a reality. Along with the contract change came the opportunity to change the Hennepin Technical College academic structure into learning teams, a more interconnected arrangement with faculty as leaders. The process has taken time, support, and education, but the leadership is emerging and daily examples of "New Designs" thinking are occurring as is described in the following:

1. The administrative structure has changed to focus work on the design criteria of the New Designs plan. An example is the change from program dean responsibilities to functional assignments. Deans have taken on roles in areas of partnerships, quality staff, curriculum, and external relations. The benefit of this structure is a sharp focus on the areas the college has identified as critical to its future.

2. The ability for all staff and faculty to try new ideas with fewer procedural steps to slow progress.

3. The concepts of New Designs are moving into the "fabric of the organization" as evidenced by actions of faculty and staff, as they are involved in routine activities.

4. Continuous in-service sessions are held for all Hennepin Technical College employees to learn more about New Designs and practice team skills. Sessions will continue until all employees have had a chance to participate.

5. New teams have formed to make college budget and facilities decisions. The vice president of Finance and Administrative Services has convened the finance team to begin work on the new budget. This model provides a broader base of input and assists the college in targeting funds to New Designs priorities.

New Designs is becoming part of the Hennepin Technical College culture and processes. As the college begins the journey into New Designs, new opportunities for the college and employees are being created. The ultimate goal is to create a quality learning environment for students and to continue serving the Hennepin Technical College community as a vital link to economic development.

APPLICATION OF NEW DESIGNS FOR THE FOUR YEAR INSTITUTION OF HIGHER PROFESSIONAL EDUCATION IN AMSTERDAM, THE NETHERLANDS.

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The Hogeschool van Amsterdam, University of Higher Professional Education has introduced new designs in her educational programme. Not only in her educational philosophy, the learning signature but also in the way we design our buildings in order to create a challenging learning environment for our students. The presentation will focus on those two subjects.

The University has developed the philosophy that we will teach our students how to learn in stead of showing them how much the lecturers know, and to do so in a challenging environment.

Project Based Learning (PBL) has been introduced throughout the whole University (over 17.000 students) being the carrier to teach students how to learn for themselves. In an average (technological) curriculum we find about 40% project based activities, 20% classroom activities in groups of 100/150 students, 15% classroom activities in groups of 16/32 students and 25% laboratory activities.

The Hogeschool van Amsterdam is in the process of concentrating her educational programme in seven buildings (coming down from thirty five buildings!). Therefore the Hogeschool has acquired large buildings in the center of Amsterdam which are easily accessible by train and all other means of public transport.

The last building we acquired belonged to a bank. Therefore this building had to be transformed from a banking environment into an educational environment. And in such a way that after the transformation it fits the requirements needed to support our educational philosophy of teaching students how to learn.

The principles of PBL are easily picked up by students specifically when they are confronted with PBL from the first day of their arrival in the University. Asked for their experiences it appears they more or less embrace this way of learning compared to the situation of sitting passively in a classroom, listening how learned the lecturers are.

The Teaching Staff.

PBL requires a total different attitude from lecturers and staff compared to the classic way of teaching, the frontal approach in which students reproduce what the lecturer has told them. So the University sent all their teaching staff to training sessions where they were offered instruments to adapt to their new role, i.c. being a coach to students and to lead them through the process of learning for themselves. Although PBL is presentat many Universities and Colleges throughout the country, the way the Hogeschool van Amsterdam has tackled the problem of having their teaching staff adapt to the new philosophy makes this University leading on this subject in the Netherlands.

Identity.

Housing 7000 students in one building makes students ask many times how we safeguard their educational identity. The University recognizes this as an important issue. In the path of getting a clear view on this subject, we used the principles of "The Down Town School" project in Minneapolis Minnesota, set by George Copa and Bruce Jilk.

Through intensive talks with lecturers and students three major items came to the surface.

To create a transparent and recognizable learning signature it
needs:

- a "smell" of the nest
- teams of teaching staff
- adequate study setting

These three items must support each other in order to create a solid basis for an challenging learning environment . If there is no place where students can "feel at home like this is my place" or when teaching staff is not interested in an adequate study setting then students experience missing links in the University's educational philosophy. This will decrease the necessary enthousiasm and will greatly endanger a successful outcome.

Because of financial bounderies the Hogeschool van Amsterdam has choosen to acquire hughe buildings instead of using a large number of smaller buildings. This is contrary to the ideas of George Copa and Bruce Jilk in which buildings will accomodate no more than 1.600 students. That's why maintaining the student's identity together with the feeling of "small is beautiful" is of such a great importance in a vast building.

All our institutes are regarded as business units, being fully responsible for their own financial and educational (teaching how to learn) results as agreed upon between the Board of Governors of the University and the Institute's management. Since their financial resources are based on the number of students, institutes have to be very careful in the way they spend their money. They pay for facility services and for every square meter they use in our buildings which encourages them to minimise their urge to expand.

Based on the PBL principle the mediacenter (14.00 square meters), situated at the students "town-square", is the very heart of the building. Latest ICT-technology is available for students. In this way the University ensures that the "teaching how to learn" philosophy is well grounded in the learning signature and in the learning environment and thus will indeed become a success.

BENCHMARKING POSTSECONDARY TECHNICAL PROGRAMS IN COMMUNITY COLLEGES AND TWO-YEAR PROPRIETARY INSTITUTIONS

by

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Abstract

This paper is based on the results of a Delphi study concerning benchmarks for postsecondary technical and occupational education programs in two-year postsecondary institutions in Pennsylvania. Although this study is oriented entirely to the needs and idiosyncrasies of the Commonwealth of Pennsylvania, global implications can be made to other two-year postsecondary technical and occupational education institutions. Moreover, this study and its potential outcomes could have a significant impact on one very important aspect of education—the nature of the performance of postsecondary technical and occupational education, and how that performance is measured. Three major uses of benchmarking are "underpinning" this study: 1) How effective are new and existing programs?; 2) Are we making progress or losing ground in our attempts to provide effective technical and occupational education?; and 3) What is a minimal acceptable level of performance for continued support of existing programs or the funding of new programs.

The changing workforce in America is perpetuated by the rapid changes in technology, where three out of four jobs now require a technical or business skill. Moreover, the largest and fastest growing segments of the workforce in America are occupations that require special skills plus two years of postsecondary education (Gray & Herr, 1995).

The dynamics of the workplace are changing rapidly into a digital technological environment with technical education and training as the major providers of job readiness skills for the workforce. The new *digital society* in America will make benchmark standards a common occurrence in the workplace during the 21st century.

The concept of benchmarking, a continuous quality improvement (CQI) process as discussed by Ellibee & Mason, is the framework used to guide this study. The benchmarking concept was selected because of its usefulness in monitoring and diagnosis (Farmer & Taylor, 1997). Moreover, it provides a baseline from which the effectiveness of new programs can be evaluated. Thus, benchmarking could have a significant impact on one very important aspect of postsecondary technical and occupational education—the nature of the performance of students and how their performances are measured. The benchmarking process, when conducted collaboratively by a broad range of local practitioners, can generate a shared in-depth understanding of postsecondary technical students and practices by identifying specific objectives, strengths, and weaknesses (Ellibee & Mason, 1997). Ultimately, benchmarking, according to Ellibee and Mason, aims to focus its discussion on the specific areas needing improvement. Moreover, completing the benchmarking process will reward community colleges and two-year private institutions with a better understanding of their students in postsecondary technical programs.

Significance to vocational education and training

Results from this project should provide leaders of postsecondary technical programs with insight useful for establishing benchmarks of their respective programs in order to ensure a minimum level of acceptable performance. The results may also be useful to Pennsylvania educators and policymakers in setting priorities and activities to improve the effectiveness of postsecondary technical and occupational education programs in the Commonwealth. For example, policymakers want to know, what is the graduation rate of postsecondary technical students? the benchmark data would reveal specific facts about these unique students. Moreover, the data from this study may be used as a management information system (MIS) to assist policymakers in decisions regarding personnel management especially when it comes to downsizing teachers and administrators.

A well-educated and technically trained workforce are essential to the survival of a nation. Moreover, the global competition in the marketplace will intensify the demand for all nations to have a competitive workforce. The high performance demands of the next century dictate a need for technical skills workers with high-tech employability skills.

Methods

The research procedure for this study was a three-round Delphi approach, selected as the most appropriate method for attaining consensus from a group of subject matter experts. The Delphi technique was devised by Olaf Helmer and his colleagues at the Rand Corporation in the early 1950s as a means to gather expert views, and to determine the extent of expert consensus regarding the future (Cope, 1981; Cunico, 1974; Taylor, 1992). The Delphi approach, according to Starling (1988), allows the search for consensus to proceed in an orderly, systematic fashion without some of the problems inherent in bringing a group together for meetings. The intention of this process is to prevent strong personalities from forcing judgments in certain directions, as frequently occurs in meetings of subject matter experts. Moreover, "good, perhaps more accurate, response may come from persons in the group with only modest credentials" (Nickell, 1988).

The following procedures for conducting the Delphi began with an contractual agreement with OR/Ed Laboratories. Initially, (round one), a written invitation was mailed to over 400 postsecondary education administrators and teachers in Pennsylvania. The invitation explained the purpose of the study and the process that would be utilized to acquire a consensus on benchmarks pertaining to postsecondary technical and occupational education programs. Many of the institutions eliminated themselves because they did not have technical or occupational education programs, may be a major reason for the low participation rate. Another reason may be contributed to the fear syndrome of being compared or measured by other standards. Although the participation was disappointing, those who chose to participate produced more than 100 pages of benchmarking statements. In round one twenty (20) respondents, completed a one-page open-ended questionnaire that asked participants to identify benchmarks of their respective technical and occupational programs. In round two, the responses from round one were organized into categories such as graduation rates, employment of graduates, academic standards, student satisfaction, and structure of program. In the third and final round, respondents were asked to participate in a process of prioritization for the designated categories. The task was to prioritize the general categories: graduation rates, employment rates among recent graduates, academic standards, student satisfaction with programs, and institutional structure in terms of efficiency and reflection of purpose.

Findings and conclusions

This study was designed to conduct a benchmarking process, using the Delphi approach, of postsecondary technical and occupational education programs in Pennsylvania two-year institutions. The findings produced more than 100 pages of suggestions for benchmarking statements that were prioritized into five major categories:

- Graduation Rates
- Employment Rates Among Recent Graduates
- Academic Standards
- Student Satisfaction with Programs
- Institutional Structure

Other findings revealed that the highest priorities among all benchmarks are those pertaining to academic standards; second highest priorities were those that pertained to employment rates upon graduation. Tied for third place were those benchmarks that pertained to student satisfaction with their respective programs and those benchmarks that reflected graduation rates. Interestingly, the least important benchmarks were those that pertained to various aspects of institutional structure such as student support services (i.e., career counseling, academic tutoring, etc).

Based on the results, the following conclusions can be made regarding benchmarks of postsecondary technical and occupational education programs in Pennsylvania two-year institutions. In the graduation category, one benchmark received majority agreement, "at least 75% of students who enroll in the program graduate." The next category, employment rates among recent graduates, received majority agreement on two benchmarks, "80% of graduates find employment in their fields of study within seven months," and "70% of graduates are still employed 12 months later." In the third and fourth categories, academic standards and student satisfaction with programs, respondents reached an agreement on four benchmark statements. Although rated as the least important of the five categories, institutional structure produced six benchmark statements. Table 1 shows the results of 25 benchmark statements that appeared to have substantial support among the respondents.

Table 1 Benchmark Categories and Statements for Postsecondary Technical and Occupational Education Programs in Pennsylvania

Category	Benchmark Statement
Graduation Rates	At least 75% of students who enroll in the program graduate
Employment Rates Among Recent Graduates	80% of graduates find employment in their respective fields within seven months.
	70% of graduates are still employed 12 months later.
Academic Standards	95% of graduates demonstrate proficiency in basic skills.
	At least 95% of instructors are aware of curren standards for industry practices.
	In at least 90% of all courses and programs, students are taught to use the most current standard methods and technologies.
	The institution has a professional development program for faculty and staff.
Student Satisfaction with Programs	Satisfaction is regularly measured by polling students, alumni and employers.
	At least 75% of the students express satisfaction with the program.
	At least 80% of employers rate students' preparation as good or excellent.
	Enrollment in the program is constant or growing.
Institutional Structure	Each program has a clearly defined course of study with goals, objectives and standards.
	Student progress is carefully tracked and regularly evaluated.
	Individual courses have clearly defined goals, objectives and standards.
	Programs have student support services in the areas of employment, career counseling, and academic tutoring.
	Programs have an evaluation and review process in place that is correlated with planning.
	Students gain an awareness of ethical issues in field of Study.

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QUALITY INSTRUCTION FOR THE HIGH PERFORMANCE WORKPLACE: DACUM

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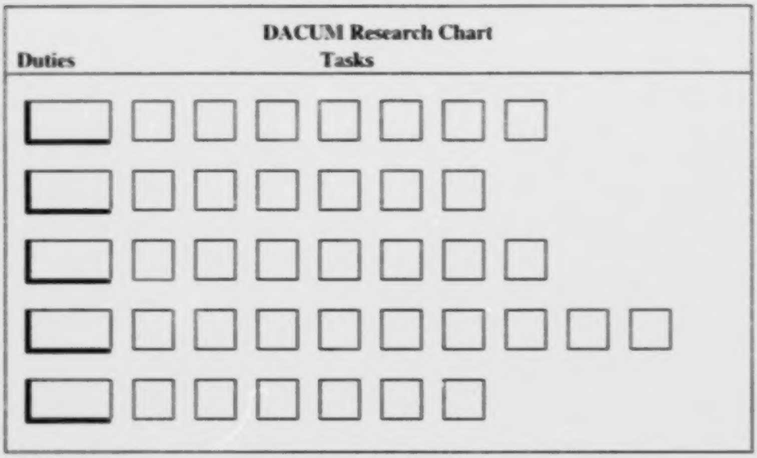
DACUM is an acronym for **Developing A Curriculum**. DACUM as used widely today is a unique, innovative, and very effective method of job, and/or occupational analysis. It is also very effective for conducting system and process analyses. The DACUM analysis workshop involves a **trained DACUM facilitator** and a **committee of 5-12 expert workers** from the position, occupation, or other area of analysis. The profile chart that results from the usual two-day workshop is a **detailed and graphic portrayal of the duties and tasks** performed by the workers involved.



In addition to the development of precise duty and task statements, lists of the general knowledge and skills, worker behaviors, tools/equipment/ materials/supplies, and future job trends/concerns are also identified.

DACUM is based on three logical premises:

1. **Expert workers can describe and define their job/occupation more accurately than anyone else**. Persons who are working full-time in their positions are the real experts on that job. Even though supervisors and managers usually know a lot about their subordinates work, they usually lack the expertise needed for a high quality analysis.
2. **An effective way to define a job/occupation is to precisely describe the tasks that expert workers perform**. A successful worker performs a variety of tasks that either the customer or employer wants performed. Possessing positive attitudes and knowledge alone are not enough. Hence, finding out what the expert workers (top performers) do will give us the opportunity to prepare other experts.
3. **All tasks, in order to be performed correctly demand the use of certain knowledge, skills, tools, and positive worker behaviors**. While the knowledge, skills, tools, and worker behaviors are not tasks, they are **enablers** which make it possible for the worker to be successful. Because these four enablers are so important, considerable attention is given during the DACUM workshop to identifying lists of each. Because these attributes are different and distinct from the tasks, it is very important to keep them separate if a high quality analysis of job performance requirements is to be obtained.

DACUM has been used very effectively to analyze occupations at the **professional**, **managerial**, **technical**, **skilled**, and **semi-skilled** levels. It has also been used effectively to conceptualize future jobs, and to analyze portions (selected duties) of one's occupation. Recently, with the increasing emphasis on quality brought forth by the TQM (Total Quality Management), ISO 9000, and QS 9000 movements, DACUM also has been used widely as a basis or foundation for analyzing various industrial systems and processes.

There are many reasons for using the DACUM process. The success of any company or organization is always affected by the quality of its employees. To produce and maintain a highly skilled workforce, schools, colleges, and companies must offer the highest quality of education and training possible to prepare present and future employees for the challenges they face.

Accurate and specific job information is essential to good decision-making in all areas of human resource development and management. All of the approaches to quality improvement and management--TQM, ISO 9000, QS 9000, etc. require participating companies to secure and utilize precise and detailed information about their workers roles and responsibilities--work processes, systems, duties, and tasks. **Job/occupational analysis** is the best method available for collecting that type of information. And DACUM is the best means of conducting job/occupational analysis that is available.

Why is DACUM the best method? The excellent quality of the **product** obtained (results) and the superior **process** used (committee of 5-12 expert workers interacting) are but two of the many important advantages.

The DACUM methodology is widely used in the United States, Canada, and many other countries simply because it is:

- Highly effective
- Quick
- Low cost

Another reason why DACUM is extensively used by educators and by trainers when they are establishing a new education or training program or revising an existing one is that they must somehow carefully answer the question of: **WHAT SHOULD BE TAUGHT**?

All too often there is a big gap between what is offered to learners in the classroom/lab and what is going on in the real world of work. This **very serious gap** between what is offered and what is needed is caused by what the writer has referred to as the "**Curriculum What Errors**." These errors can be stated in many ways but may be summarized as twofold:

1. Failure to teach **what** should be taught (the latest concepts, methods, skills, techniques)
2. Teaching **what** should not be taught (the outdated concepts, processes, technology, information)

These **what errors** are very serious and very costly. They, in reality, cheat the learner, the taxpayers, and the companies. DACUM is an effective, quick, and low cost process for significantly reducing these errors.

The very powerful combination of being effective, quick, and low cost has made the DACUM process very attractive to many schools, colleges, companies, and government agencies.

Another important reason for using DACUM has been and continues to be the strong desire of many trainers and educators to establish a relevant, up-to-date, and localized research base for curriculum and instructional development. Clearly, for **educators** a curriculum base that is soundly determined with maximum input from the businesses who are going to employ the students is needed. For **business trainers** and developers, a curriculum base is needed that is specific to the companies needs and that has been developed in such a way as to obtain strong employee buy-in.

To permit any company or educational agency to identify its own localized research base for curriculum development, an alternative to traditional, time-consuming, and costly approaches to job/occupational analysis was needed. DACUM has become that powerful alternative!

Once employers understand what is to be done via DACUM and how the results will be used, it is a rare employer who will refuse to cooperate. Instead, many colleges who have used DACUM report such reactions as the following:

- Offers of equipment (loans and gifts) and supplies
- Offers to host field trips
- Willingness to provide subject matter experts

- Offers of supportive training materials
- Offers of resource persons to help teach in emerging technology areas
- Requests for inservice training programs to meet local industry needs
- Increased enrollments in adult upgrading programs
- Increased support of the educational institution in a variety of ways by local business, industry, labor, and management

While the public relations value of DACUM is secondary to its main purpose, its significant, long-term impact is too important to overlook or lightly dismiss. Linkages can be developed which, if properly nurtured can be long lasting and extremely beneficial.

Business needs to design new training programs quickly and effectively. The skills and competencies needed must be job or process specific, if they are to meet the company's production and quality goals. Business needs highly job-relevant training and they must reduce the start-up time and cost for the design and delivery of programs. As one company reported, they cannot afford to spend 30 or more days on an occupational analysis if a two-day DACUM workshop can do the same job better and much cheaper.

Who Uses DACUM?

DACUM is used by:

- **Educational agencies** such as state departments of education, community and technical colleges and institutes, proprietary schools/colleges, colleges of education and universities, and secondary schools.

A list of some of the educational agencies served by the Center on Education and Training for Employment, College of Education, The Ohio State University (hereinafter referred to as CETE) follows.

1 Selected Educational Agencies Served

DACUM-related services have been provided to a large number of agencies, either by contract or through participation in Center-sponsored DACUM Training Institutes. Client agencies have included secondary, postsecondary, and higher education institutions, state educational agencies, and federal education and manpower agencies, both domestic and foreign. Following is a partial listing:

Arizona Center for Vocational Ed
Arkansas Dept of Ed
Asian Pacific Skill Development Program
Brevard Community College
Caldwell Community College
Carl Sandburg Collge
Catonsville Community College
Central Arizona College
Central Virginia Community College
Chesapeake College
Clark County Community College
Columbus State Community College
Dallas County Community College
Delaware Department of Public Instruction
Department of Education, Virgin Islands
DeVry, Incorporated
Dundalk Community College
Dyersburg State Community College
Education Management Corp
Elgin Community College
Ferris State University
Florida Department of Education
Fox Valley Technical College
Grant MacEwan Community College
Houston Community College
Illinois State University
Indiana State University
Indiana Vocational-Technical College
Kellogg Community College
Kirkwood Community College
Longview Community College
Madison Area Technical College
Maine Bureau of Vocational Education
Memphis City Schools
Mercer County Community College
Milwaukee Area Technical College
North Central Technical Institute
N. Iowa Area Community College
Northern Illinois University
Northern Maine Technical College
Ohio University
Ohio Department of Education
Renton Vocational Technical Institute

San Antonio Community College
San Luis Coastal Unified School District
Seattle Central Community College
St. Clair College of Applied Arts
Stanly Community College
Texas Community College Coordinating Board
University of Central Florida
University of Missouri-Columbia
Valencia Community College
Virginia Department of Education
Vocational and Industrial Training Board
York Technical College
Walla Walla Community College

Ohio Department of Education
Renton Vocational Technical Institute
San Antonio Community College
San Luis Coastal Unified School District
Seattle Central Community College
St. Clair College of Applied Arts
Stanly Community College
Texas Community College Coordinating Board
University of Central Florida
University of Missouri-Columbia
Valencia Community College
Virginia Department of Education
Vocational and Industrial Training Board
York Technical College
Walla Walla Community College

- **Business and Industry** to do all kinds of human resource development and quality management decision-making. Many businesses and industries (hereinafter referred to as businesses) are using DACUM for job and occupational analysis as a basis for training program development, job descriptions, career development, job restructuring, etc. Recently a number of companies have been very successfully using the method with some adaptation to analyze job processes and systems rather than for the more common identification of duties and tasks.

Selected Business Clients
AT&T
American Electric Power
Arthur Anderson
Ashland Chemical
Blue Cross/Blue Shield
Boeing
Champion Internat'l
Control Data
Defense Supply
Centers
Discover Card

Dofasco, Inc.
Eastman Kodak
Ericsson, Inc.
General Motors
General Electric
John Deere
Kroger
Lubrizol
Lucent Technologies
Mennen
Monsanto Chemical
Motorola, Inc.
Navistar International
Newport News Shipbuilding
Roadway
UAW-Ford
United Airlines
Unilever
Virginia Power
Westinghouse
, pp. 17

QUALITY INSTRUCTIONAL REQUIRES HIGH QUALITY MATERIALS: SCID

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The development of curriculum and instructional materials for CBE is a costly and complex process involving many critical tasks. The failure to properly carry out anyone of these tasks can jeopardize the entire instructional development effort. The importance of the process demands that appropriate and effective procedures be used so as to guarantee the production of relevant, high quality materials. Further, the high costs involved require that the most efficient time and money saving approaches available be utilized.

To provide some structure to this very important process, an efficient and effective model has been devised. Known as SCID or the Systematic Curriculum and Instructional Development model, it consists of five phases and 23 components. The five-phases are (1) Analysis, (2) Design, (3) Development, (4) Implementation, and (5) Evaluation. Each of the 23 components involves several steps, some optional, but most required. Educational and business/industry use of the SCID model to date has shown it to be very practical and workable. See Attachments A for some graphic information about the model.

Analysis Phase

Analysis is where it all begins. The needs analysis component of this phase is where the actual need or needs are determined. The need may be a need for training, for a change in management or production procedures, for new equipment, updated technology, or a combination of these. If the need for training is confirmed, them some type of job or occupational analysis is called for. While the observation and interview techniques used to be extensively used to conduct job analysis, today we strongly recommend the DACUM approach to job analysis because of its many benefits and advantages over all other approaches for most situations. Using DACUM, a comprehensive and high quality analysis can be completed in two days rather than 30 or more days required by most methods.

Following the job/occupational analysis procedure, we highly recommend that task verification be conducted. Task verification can serve several important purposes. To describe two of them, verification can extend the involvement of a few persons in the job analysis to 50, 100, or more expert workers and/or immediate supervisors of the workers. It can also provide an opportunity to obtain valuable decision-making information such as ratings on the "importance" of each task, the "difficulty of learning to perform" each task, and the percent performing each task.

Given the information available from task verification, we are in a good position to select or deselect, as some industry trainers say, the tasks to be included in the education or training program. We also have valuable information which can guide both the instructional development and instructional planning process.

Last but not least, we are ready to conduct standard task analysis. Task analysis can take many forms, but when properly done, will yield the explicit and detailed information that is needed to develop relevant and technically accurate learning guides, modules, and other types of teacher and student materials. The task analysis of the selected tasks will serve to identify the steps involved in their performance, the knowledge and attitudes required for successful performance, the performance standards (criteria for success) expected by industry, the decisions the worker must make during task performance, and any safety concerns that may need attention. Such information, obtained from expert workers, is critical to successful curriculum and instructional development.

1 Design Phase

As the design phase is started, careful consideration must be given to the type of training or education program desired. What learning principles and concepts will be embraced, and what type of student and teacher learning materials (e.g., learning guides, modules, lesson plans, job aids) will be most effective and cost efficient?

In the design phase, the task performance information collected during analysis is used to specify, in measurable terms, the job skills, knowledge, and attitudes the educational or training program will develop in the learner. Decisions are also made about the type of instructional program to be developed; a fully competency-based one, a more traditional one, or perhaps something in between. Decisions also need to be made about the amount of individualization of instruction to be offered, the amount and type of supportive media to be developed.

Measurable learning objectives are developed for each task or group of clustered tasks. Job performance measures, sometimes called JPMs are developed for each task. Written tests and performance checklists are developed so as to allow for valid and reliable assessment of the learner's achievement.

During this phase decisions are also made regarding the training setting or settings most appropriate, student/trainee entry-level qualifications, and the sequencing of learning objectives. The design phase concludes with the preparation of a training plan. The training plan will include information about such things as: (a) the selection and recruitment of learners, (b) the selection and/or training of faculty, (c) instructional facility needs, and (d) the tool, equipment, supplies, and materials needed. The implementation of the training plan begins upon its completion so that the necessary preparations can be made concurrently with the development phase.

Development Phase

The development phase results in the production of whatever instructional materials, including media, were decided upon during the design phase. The materials must be developed so as to help the learners achieve the performance objectives in the most efficient, effective, and economical way possible. Emphasis should be on maximizing the use of existing materials and resources whenever possible. Teacher/instructor and student/trainee activities are designed using the learning objectives and performance measures developed during the design phase as a foundation to guide the process.

In competency and performance-based programs, the instructional materials typically take the form of competency profiles, learning guides, and/or modules. The more traditional education and training programs usually produce curriculum guides, courses of study, and lesson plans.

In most of the development work done for companies and government agencies, the sponsor has elected to develop learning guides. As compared with modules, learning guides are usually smaller, 15 to 30 pages versus 40-60 pages for modules, and therefore, much easier to develop. Learning guides usually refer to one or more external resources while modules are usually self-contained. Both types of learning packages contain performance and enabling objectives, and consist of learning experiences that present information, practice/application activities, self-check model answers, and conclude with a performance test. They are suitable for individual, small group, or classroom use. See Attachment B for a learning guide graphic illustration.

Whatever the type of materials being produced, it is usually most advisable to also produce some type of media. The type of media to be developed will depend on many factors including the resources available, the nature of the learning, the skills of the developers, and the equipment and time available. Some media such as overhead transparencies, poster, and 35mm slides are quite easily produced at low cost. Other media such as videotapes and interactive videodiscs require more skills and time and are more expensive to produce. The production of appropriate media is strongly encouraged as they can add variety and clarity to the instructional process, serve to motivate the learner, and facilitate the explanation of complex and difficult to explain concepts and procedures.

The instructional materials produced should be reviewed for technical accuracy, edited, tried out with a group of learners, and revised as necessary. The pilot-testing and revision of newly developed materials is very important and should not be short changed for the sake of saving a little or a few dollars. A field review or critique by qualified persons may sometimes be substituted for the actual pilot or field-testing by students/trainees.

Implementation

Implementation involves putting the education or training program into actual operation. Work begins by activating the training plan developed in the design phase. Learners have been recruited, instructors selected and trained, and the availability of facilities, supplies, equipment, and other resources is confirmed.

After pretesting, the training is conducted as planned and learner performance is evaluated with both progress and posttests. Instructor performance is also assessed. The evaluations serve to verify that the learners have achieved the performance objectives and to identify any instructor performance problems that need to be remedied. Formative evaluation data is collected from the students and the instructor and used to make in-course corrections as necessary. The results of instruction are documented in the form of student and instructor performance records. Student competency achievement profiles are used to report to parents and concerned others.

Evaluation Phase

While formative evaluation was conducted during the course of the instruction, it is extremely important at this juncture to conduct summative evaluation. By gathering data on the overall instructional process, on the program outcomes, student follow-up data, worker productivity data, and cost effectiveness data; evaluation can generate decision-making data to help maintain and improve the education or training program. The summative data collected must be carefully and appropriately analyzed and interpreted. Recommendations regarding the program improvements needed then are made and decision-makers are encouraged to take any necessary corrective actions. Completing the evaluation phase produces the performance data and feedback vital to any education and/or training system concerned with quality management or justifying its existence to management.

Note: The Center on Education and Training for Employment, The Ohio State University, 1900 Kenny Road, Columbus, OH 43210-1090, periodically conducts workshops on the SCID model. If you are interested in such a training activity for yourself or your organization, please contact the Center (800-848-4815, Ext. 2-8481 or 614-292-8481 and ask for Bob Norton.

DEVELOPMENT OF OCCUPATIONAL STANDARDS WITH REGARDS TO VOCATIONAL TRAINING

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Firuzan BISEL
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In Turkey, development of occupational standards and an accompanying testing and certification system have been under discussion since the 1960's. The need for establishing such an occupational standards, testing and certification system has been emphasised not only in all the Fifth Years State Development Plans, but also in "the basic law for national education" as well as in other numerous places. The issue of testing and certification based on occupational standards has been discussed at some meetings since then and it was chosen as thesis subject at universities. Along with such studies, attempts have been made by some institutions to develop occupational standards. The scope of such studies was limited and therefore could not become a system due to various reasons.

The most significant attempt in this field is the "Employment and Training Project" and its "Occupational Standards, Testing and Certification Component". Before we go on to these studies, we would like to briefly highlight the needs and benefits of the occupational standards for the employers, employees and the training sector.

1 II- The Needs and Benefits of Occupational Standards

In many countries including Turkey, the basic problem related with vocational training is the quality and the efficiency of the training. If the majority of people, who had taken vocational training in a certain vocational training system, cannot be employed in a related field or even if those people had such an opportunity, lose their job after a while because of the incapability to show the desired performance, it is not possible to talk about the quality and efficiency of this vocational training. One main and probably the first cause of this, is the lack of communication between the training life and the labor market.

The trainers are not thoroughly informed about the demands of the labor market and train people with such a lack of information. Additionally, those who take part in the labor market complain that the educated people, for whom a great amount of expenditure has been allocated, do not even have the basic knowledge and skills expected from them. At this point, ***occupational standards*** play a major role for the quality and efficiency of training.

It is possible to define the occupational standards in different ways depending on the characteristics of the groups that we address. Technically, the occupational standards can be defined as "the norms containing the minimum knowledge and skills that a person has to possess in order to perform an occupation or a task successfully." However, we have the conviction that it is necessary to focus on the social and political aspects of the occupational standards in addition to their technical aspects.

I hereby would like to share with you a definition, made by Mr. Hermann Schmidt, the former Secretary General of German Federal Institute of Vocational Training. I really like and agree with this definition.

In one of his speeches, Mr. Schmidt had defined the occupational standards as follows: *"the occupational standards are an agreement, a consensus made between the labor market, the employers, the workers' unions and the employment organizations."* This definition gives a social dimension to the occupational standards. The important thing is the acceptance and utilization of the occupational standards by the employers, employees and the training sector, rather than their development methods.

Occupational standards provide significant benefits for employers, employees and training system. By means of occupational standards employers can have prior information about the skills of a person to be employed, they can employ people who can easily adapt themselves to changing conditions and they can make better decisions on how to employ, appraise, provide occupational training and determine salaries. As to the employees, they can be aware of the skills to be possessed in order to perform a job successfully and thus they can demonstrate them while applying for a job. Required skills in fact eases the way for improving oneself. Occupational standards make it possible to reflect the requirements of the world of work to the training system and thus to the training programs. That is how strong links between the training system and the labor market is established.

I would like to underline and list the most important benefits of occupational standards for employers, employees and as well as for the trainers.

For the employers;

1. Occupational standards, give prior information about the skills and knowledge that a person to be employed has to perform or actually performs, reduces the risk of loss of money and loss of time on the part of the employer due to the employment of the wrong person.
2. Employing persons who have the skills required by a job and who can keep pace with the changing condition increase the competitive power of the employers.
3. Occupational standards are helpful in employing, appreasing, providing necessary on the job training and determining the salaries of the persons.

For the employees;

1. Occupational standards indicate the skills that a person has to process in order to perform a job successfully and in a way acceptable for the employer.
2. Occupational standards give a person the opportunity to demonstrate his/her skills as he/she applies for a job.

3. Occupational standards include guidelines about the skills and knowledge to learn and to acquaint and thus to improve oneself while changing a job or anticipating with a new job.
4. Occupational standards give a person the opportunity to work under better conditions together with a more satisfactory and a safer working environment.

For the training system and the trainers;

1. Occupational standards indicate the knowledge and skills that must be possessed by the labor force and that are required in the world of work.
2. Training programs are prepared within this framework and the persons are trained according to these programs,
3. The trainers become aware of what they have to teach,
4. Strong links between the training system and the labor markets are enhanced and the participation and contribution of the labor market to the training system is encouraged.

Occupational orientation, occupational consultancy, contribution in increasing the quality of the services provided by the employment organizations, are among some further benefits of occupational standards.

The above-mentioned benefits can be obtained only if their impact is directly reflected on the educational life. This in fact ensured by three main elements upon which all the countries agree today, regardless of the system they apply and their method of institutionalisation:

a. First of these elements is the cooperation between the labor market and the training and the presence of a continuous link between them.

b. Second element requires that the above - mentioned link is the occupational standards.

c. Finally the third element is the cooperation between the employees, employers and the training sectors in order to develop the occupational standards and to provide the expected benefits in training.

III- EMPLOYMENT AND TRAINING PROJECT

Occupational Standards, Testing and Certification Component

At the beginning of my speech, I emphasized that the most comprehensive studies in this field were the studies conducted within the scope of the employment and training project. Now, I would like to summarize what we do within the scope of this project.

Due to the reasons I stated at the beginning of my speech, a series of studies were initiated in 1990's in order to establish the occupational standards, testing and certification system in Turkey. A loan agreement was signed between the World Bank and the Government of Republic of Turkey in 1993. In accordance with the loan, Turkey initiated the "Employment and Training Project" with the financial support of the World Bank. This project runs by Turkish Employment Organization (IIBK) and consists of 8 components one of which is devoted to establish the occupational standards, testing and certification system in Turkey.

"Occupational Standards, Testing and Certification" component of the "Employment and Training Project" has 4 goals. These are as follows;

1 to develop standards for approximately 250 occupations,

2 to establish the test item banks depending on the occupational standards,

3 to establish a system of the occupational competency certification system accepted by the labor market,

4 to establish the Turkish Occupational Standards Institution (TMSK).

According to the "National Protocol" signed between the parties representing employees, employers and the state, this component of the project is coordinated by an "Occupational Standards Commission" (MSK) consisting of the superior level representatives of the related institutions, namely, the Ministry of National Education (MEB), the Ministry of Labor and Social Security (CSGB), State Planning Organisation (DPT), Turkish Employment Organisation (IIBK), Union of Chambers of Commerce and Industry (TOBB), Confederation of Turkish Craftsman and Tradesman (TESK), Confederation of Turkish Trade

Unions (TURK-IS), Turkish Confederation of Employer Associations (TISK) and MEKSA Foundation (Observer).

The technical studies of this component are executed by the Research and Technical Services Unit (ATHB). The international technical support for the studies of both MSK and ATHB is provided by the German Federal Institute for Vocational Training (BIBB).

1- Occupational Standards Development Activities

The methods to be used for the development of the occupational standards for Turkey were established by investigating the systems of various countries. After the pilot applications of the method developed, the mass production was initiated. Since the beginning of the project 145 occupational standards were developed (as of July 1998).

Occupational standards (OS) are developed in close cooperation with representatives from industry and business. The standards contain the occupational title and designation and a detailed description of the relevant duties and tasks to be performed by the job incumbent. Furthermore they are referenced to the International Standard Classification of the ILO and to the CEDEFOP "Description of the Mutually Agreed Practical Vocational Requirements in the EU".

The procedure for the development of OS is comprised of the following 9 major steps:

a. Sectoral analysis of the occupation
b. Occupational Standards Commission (MSK) approval for the prioritized occupations
c. Training of facilitators to work with the expert panels
d. Formation of expert panels
e. Conducting occupational analysis workshop (2 or 3 days)
f. Verification of the OS by the relevant institutions
g. Finalizing/Editing of the OS
h. Endorsement by the Occupational Standards Commission (MSK)
i. Publication/Dissemination of the OS

The basic principles underlying the procedure to develop OS are as follows:

- the procedure should be pragmatic to achieve rapid development of OS,
- the end-users (companies, employee's organizations, training institutions etc.) can be convinced of the benefit of having OS if development progresses rapidly in various sectors,
- future-orientation of OS sufficiently taken into consideration by comparative analysis,
- the acceptability and quality will increase by sectoral meetings and verification.

Furthermore, continual updating of the occupational standards according to the trends and changes in the work life is required and for the sustainability of the system establishment of Turkish Occupational Standards Institution (TMSK) is essential.

2- Testing and Certification Activities

Occupational standards can only serve their purposes if they are accompanied by corresponding procedure and instruments of testing and certification. Certification plays an important role in creating a more transparent labour market to mach the skill demand with supply.

First of all I would like to underline that the foreseen testing/assessment and certification system which will be established and implemented based on occupational standards under discussion of MSK. We can only give information about test items development activities instead of testing and certification activities.

MSK/ATHB develops test item banks based on developed occupational standards for both theoretical and practical tests. A computerised test items bank is set up by ATHB to facilitate the testing and assessment. 28 test item banks, in cooperation with expert workers and instructors, have been established by ATHB (as of July 1998). As we mentioned above, the foreseen testing and certification system is under discussion of MSK. General features of this system might be as follows;

a. The foreseen testing system will be a tool to check existing competencies-irrespective of how and where the test candidate has acquired them;

b. The testing system will cover both theory and practice;

c. It is supported by a computerized test item bank;

d. TMSK will franchise the testing services to capable institutions throughout Turkey;

e. Upon completion of test, successful candidates will be awarded with a competency certificate;

f. The certificate will specify the occupation and competency level of the bearer.

3- Establishment of Turkish Occupational Standards Institution (TMSK)

The studies of institutionalisation that will provide the continuance of the system are more important than all the technical studies conducted at this component. At present, "Turkish Occupational Standards Institution" draft law has been prepared by MSK and sent to the Ministry of Labor and Social Security through Turkish Employment Organization (IIBK). After collecting the comments from all related ministries and institutions the bill was finalised and submitted to Prime Ministry in order to be sent to the Parliament.

COLLABORATIVE LEARNING IN CYBER SPACE : A PARADIGM SHIFT

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Abstract :

The increasing availability of powerful personal computers and the exploding popularity of Internet based communications have fostered numerous proposals for the use of these tools to aid the teaching and learning environment. Innovative use of this technologies can be a cost effective way of enhancing the quality of teaching and adding excitement to the learning process particularly in the field of technical and vocational education. Recent advances in technology from distributed to interactive and finally to collaborative technology through Internet and WWW connectivity encourage the development of new teaching environment and a paradigm shift in the learning process.

Unfortunately most of the discussions on Internet and WWW often put emphasis on the technical aspects over the educational aspects of the network based learning environment. Many of the learning environment available on the internet scarcely display a sound learning structure. Much enthusiasm tends to confuse learning with access of information. The present paper discusses the characteristics of new learning and teaching environment in network based environment and highlights the significance of collaborative learning in CYBER space to enhance the quality of teaching and learning process.

1.0 Introduction :

The computers and communication system now-a-days offer unprecedented opportunities to the technical and vocational education system with its capacity to integrate and interact with each other over a wide geographic distance in a meaningful way to achieve the instructional objectives. The growth of the communication and computer technology, their ease of use, the power and diversity of information transfer, allow teachers and students to have access to a world beyond the classroom. It has the potential to change the nature and process of the learning environment [1].

Recent advances in technology from distributed to interactive and finally to collaborative technology through Internet and WWW connectivity encourage the development of new teaching environment and a paradigm shift in the learning process. The link between distance learning and telematics is becoming even stronger, yielding new solutions to old problems, innovative educational resources and new teaching/learning models.

Many experts believe in the beneficial role which flexible learning systems may soon play, be it in university education, professional training, continuing education training or life long learning. Reasons for transition towards delocalized and desynchronized forms of learning are found in the growing number of people engaged in a professional activity, seeking education, needing re-education and part-time education [2].

Preparation to use these tools requires a shift in pedagogy, a movement from lecture centered to learner centered and finally to learning team centered instructions. The learning team centered approach increases dialogue, critical thinking and interactions at many levels through various modes. Instructional design using collaborative technology must integrate more group work, work based learning, problem solving to support collaborative learning activities.

The present paper discusses the characteristics of new learning and teaching environment in network based environment and highlights the significance of collaborative learning in CYBER space to enhance the quality of teaching and learning process.

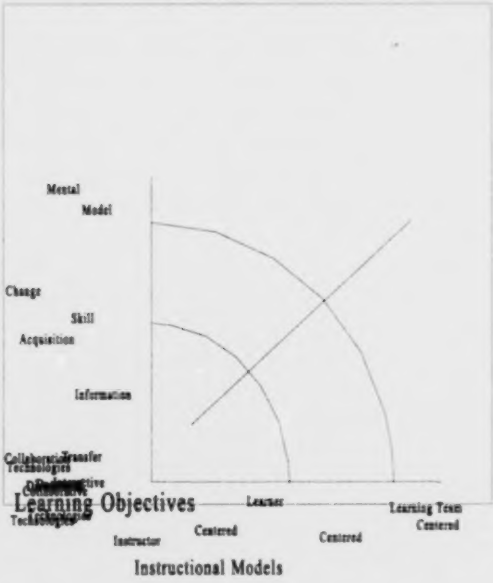
2.0 Distance Learning and Telematics :

The principal characteristics of any form of distance learning is that the learner does not have to be present in a classroom in order to receive the instruction. Broadly defined, distance learning is any approach to education delivery that replaces the same time, same place face to face environment of a traditional classroom. Over the past century, the steady evolution in communication technology has considerably influenced the parallel development of Distance Education (DE) system. The first generation distance education largely consisted of correspondence courses based on printed material where interaction between the teacher and the taught was few and far between. The second generation DE system incorporated various media like television, audio recording and, in some cases, courseware delivered in floppy. Teacher and student interaction remained virtually unaltered from the first generation even if supported by the telephone, fax, e-mail and the like. Thus first generation and second generation of DE systems were based primarily on production and distribution of learning materials. Communication between students was virtually non existent and DE seemed merely to be conceived to bridge the geographical distance. Hence education was no longer seen as a social activity centered on student teacher interaction but rather as an almost totally individual pursuit [3].

The driving force beyond the development of third generation DE systems is the re-definition of learning as a social activity involving extensively the computer network. In DE terminology, third generation system is also known as on-line education or network based education where participants interact in a full fledged learning community between all the actors in the learning process - learners, tutors and experts through asynchronous or synchronous mode, which helps to overcome isolation, enhances group interactivity and promotes collective development.

3.0 Technology and Instructional Models :

The technology classifications that enable distributed learning is now mapped against the three categories of learning objectives with instructional approaches [4]. The technology tools developed for distributed learning must support collaboration and facilitate group interaction while allowing flexible delivery.


Mental
Model
Change
Skill
Acquisition
Information
Transfer
Collaborative
Technologies
Interactive
Technologies
Learning Objectives
Instructor
Centered
Learner
Centered
Learning Team
Centered
Instructional Models

Distribution technologies most often support the instructor centered approach along with the Information Transfer learning objectives. Interactive technologies (CBT, CD-ROMS) provide any time, any place access and are most frequently used to support Skill Acquisition learning objectives along with the learner centered approach.

Collaborative technologies support the learning objective of Mental Model Change in conjunction with learning team centered education. Collaborative technologies offer a rich, shared virtual classroom in which interactions occur not between an individual and technology, but as many to many, interpersonal communication among participants who share a common goal. Collaborative technology includes the use of white board, bulletin boards, Internet relay chat and WWW both in asynchronous and synchronous mode.

4.0 Characteristics of Network Based Learning :

The most striking characteristic of network based education is any time, any place learning with flexibility. Flexibility in terms of time, space and interaction in asynchronous mode allows the tutor to monitor both the overall progress of the course and knowledge acquisition of each participant, more or less in real time. This helps the tutor to modify, reinforce and model educational processes according to the need of the learner. From the learner point of view, peer interaction produces a number of benefits for the learning process, especially when conducted in written form. Active participation helps to enrich learning environment, allowing each participant to consider the topic under discussion on a different situations from different perspectives. Essential characteristics of network based learning environment are compared below with traditional environment in Distance Education.

Issues	**Traditional Environment**	**Network Environment**
Learning Materials	Generally Printed Format	File format : Text, Sound, Graphic, Video
Orientation	Units are generally arranged serially	Topics are arranged as hyper media approach
Instructional Model	Instructor Centered	Learning Team Centered (Collaborative)
Pace	Teacher Controlled	Learner Controlled
Timing	Fixed Time	Any Time
Modes	Verbal & Visual	Wide Variety of Format with emphasis on Multimedia
Location	Fixed	Any where

5.0 On-line Collaborative Learning :

Most interesting aspect of network based learning from educational point of view is its capacity to promote and support collaborative learning activities. In fact, it favours a kind of learning based on collaboration between all actors in the learning process - learners, tutors and experts. Learning happens in a social context represented macroscopically by the cultural background and microcopically by co-operation. Co-operation provides multiple perspectives, unhindered exchange of concepts and the possibility to explore together new ideas, to prove existing suggestions and avoid the development of misinterpretations. Learning by co-operative problem solving promotes motivation and can extend learning resources [5].

Students actively learning in cooperative groups have demonstrated an ability to generate higher-level reasoning strategies, greater diversity of ideas, more critical thinking, and increased creative responses as compared to those learning individually or competitively. While no single model is the best approach in all situations, evidence is growing that the learning team centered model also has important second order benefits in that it fosters the growth of effective teamwork, as well as the development of interpersonal communication and listening skills.

6.0 Challenges :

Most of the discussion on Web based courses put emphasis on the technical aspects over the educational aspects of the network based learning environment. Many of the learning environment available on the Internet scarcely display a sound learning structure. Much enthusiasm tends to confuse learning with access of information. Instructional design using collaborative technology must integrate more group work, work based learning, problem solving to encourage higher order thinking. The role of teachers is evolving dramatically to include a focus on facilitating group learning. On-line teaching requires new skills and different rechnique from those instructors historically posses. Designing and developing instructional material in CYBER space requires a new approach to instructional design, requiring knowledge of new media, models of asynchronous collaborative learning style and approaches to interweave individual and collaborative team learning in a manner appropriate to the content and context. When incredible source of information, material and knowledge available on the Internet are combined with the on-line collaborative learning paradigm, it enriches and adds value to education as a whole.

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QUICK START: CUSTOMIZED COMPANY SPECIFIC/JOB SPECIFIC TRAINING PROGRAMS

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Introduction

Quick Start is a short-term training program specially designed to help attract a new company or to assist a company to expand or help one which must retrain its workforce because of changing technology or production processes. It has a proven impact on the economic development of a country or region and on the increased competitiveness of an industry. Quick Start requires close collaboration and commitment among employers, labor offices, training providers and other governmental agencies.

This paper enumerates the characteristics of a good program and focuses on tailoring the project to identified jobs in the company. The preliminary phase of project involves contact with the company and careful assessment of training needs. In the developmental phase, job and task analysis, training plan design, and selection of trainers are addressed. In the implementation phase, trainees are selected, the training is delivered, and results are evaluated.

Companies that use Quick Start find that they save time and money during the crucial start-up or expansion period. They also have higher productivity and lower labor turnover rates. Quick Start enables companies to hire employees who have been thoroughly screened for necessary academic skills and positive attitudes, who have been trained in job skills, and who have an understanding of the company history and benefits.

The History Of And Need For Quick Start Programs

Beginning in the late 50's and early 60's, the increase in technological development and automation rendered many U.S. companies production equipment and methods obsolete. Many companies simply closed their obsolete operation in one location and looked for a new location to build a modernized plant which would result in more and better products and higher profit for the company. Companies which were located in the Northeastern part of the country sought locations which offered a warmer climate and a better and more friendly labor supply. With this movement of companies, States in the south eastern U.S. began to see the advantages of attracting these companies to their state. Advantages such as more and higher wages for their people, the collection of more taxes and therefore more money for the operation of government and services to the people, higher standards of living and diversification of their economy were recognized as extremely important to the state and its localities. Many states and localities began to offer incentives to companies to locate there. Incentives such as postponing taxes for several years, free or low cost land, loans for construction and equipment, etc. were most often used.

In 1958 North Carolina, a largely rural state highly dependent on agriculture for its economy, entered upon a massive program of economic development and an aggressive effort to attract new companies and to encourage the modernization and expansion of existing companies. The governor contacted companies in the Northeast, urging them to relocate to his state to provide replacement jobs. Some of the companies were interested, but were afraid the largely agrarian labor force would not be ready for industrial work. To ease these concerns, North Carolina promised no-cost training for any firm that would bring new jobs to the state. Customized training for new employees in new jobs was the result. During the 1960's and 1970's, state economic development programs, included customized training programs, in their business attraction and expansion efforts.

Growing concerns over manufacturing jobs losses in the 1970's and the recession in the early 1980's led other states to create customized training programs to encourage business expansion and compete with other states for business investment.

Some states respond to the problems of recession with a special focus on retraining employed workers using customized training programs to retain existing businesses and prevent worker displacement and unemployment by

Although the economic role and objectives of state customized training programs and the historic reasons for their creation vary substantially, all programs now face increasing demand for upgrading and retraining employed workers.

As noted, the most significant difference between customized training programs with regard to their economic development objectives and roles within states is their relative emphasis on business attraction, expansion, and retention.

Development and Implementation of Quick Start Programs

Successful Quick Start Programs are characterized as follows:

- Short term, intensive, direct
- Workers skills guaranteed
- Job and task analysis done for each job
- Close cooperation between company, training provider and government agencies
- Guaranteed employment for participants
- Training customized for the job
- Instructional content based on analysis of job

Development of the capacity to deliver Quick Start Programs

Establishing and maintaining ongoing communications and service linkages with business and industrial sectors by regional and local labor offices, and vocational training institutions is essential to quality Quick Start training. Such efforts exemplify a partnership between governmental agencies and the private sector, through which public and private training services can be effectively directed toward the needs of the region's business and industrial community.

DEVELOPMENTAL PHASE

The developmental phase must include each of the following elements:

- Designation of project staff
- Company orientation program (if applicable)
- Selecting Tasks for Training
- Conducting Task Analysis
- Training Plan Development
- Curriculum Design
- Developing or Selecting Training Materials
- Selecting Trainers

Job/Task Analysis

The major purpose of job and task analysis is to assure that the training program is customized to the skills, behaviors, and knowledge requirements essential for job performance in the company. A thorough job analysis is the first step in determining training content for any job. Without it, training materials and activities could be unrelated to the required job skills and behaviors. Obviously, irrelevant training is a waste of time and money for everyone concerned.

The traditional approach to specifying training content involved general course outlines. Of the problems inherent in such an approach, irrelevance to actual job requirements was of prime concern. For this reason, training developers have increasingly moved toward more specific training descriptions using job and task analysis to provide a sound basis for designing training.

The job and task analysis data should be assembled into a manual or reference guide to be presented to the company and left with them for future use.

Developing Performance Standards

Acceptable standards of performance must be identified for each task. The performance standard communicates to the trainee how well the task must be performed. The performance standard should be based on the company standards for products or services.

Performance Steps

Performance Steps are a series of actions required to complete a task. They must be listed for each task in order to determine the knowledges, materials, tools, equipment, and safety considerations for the task.

Identifying Tools, Materials, Equipment, and Work Aids

A list of the tools, equipment, materials, and work aids required to perform each of the Performance Steps must be developed.

Identifying Knowledges, Skills, Abilities, and Attitudes

Each Task Statement and Performance Step must be analyzed for the minimum knowledges, skills, abilities, and attitudes a trainee must possess to successfully complete the task.

Identifying Safety Hazards and Conditions

The conditions, circumstances or situations under which the worker performs tasks must be described. The task statements and performance steps must be analyzed to determine any safety hazards, physical requirements, or environmental conditions that may: cause injury to the worker or others; result in damage or destruction to tools, equipment, and materials; prevent successful task performance.

TRAINING PLAN DEVELOPMENT

The training plan may now be designed based on the job/task analysis data. This process will yield a sequential method for delivering training. The plan must represent a thoughtful systematic approach that reflects all of the previously listed components. Most Quick Start training programs use company personnel as instructors especially for the practical skill part of the program. Full-time faculty from training centers may be well suited to teaching the theoretical part of the training program.

Training the Instructors

It is essential to train those who will provide expertise in planning, developing, and conducting Quick Start training to companies. These persons must have a thorough understanding of the Quick Start Program and the process.

In addition, all company instructors should be given Train-the-Trainer sessions. They must understand job and task analysis, and how to use this information in teaching practical performance skills.

IMPLEMENTATION PHASE

Once the plans for providing training are finalized, the terms of that plan must be formalized in writing. This may initially take the form of a proposal but ultimately after the proposal has been accepted or an oral agreement has been reached, it should be committed to an agreement signed by the officials representing the three parties.

The agreement should specify such items as:

- Objectives to be met
- Dates and times the training will occur
- Instructor qualifications
- Labor Office responsibilities
- Who will be trained
- Who will conduct the program
- Company responsibilities
- Costs involved, payment method and responsibility
- The number of trainees
- Number of instructors
- Training Center responsibilities

Trainee Recruitment, Screening, and Selection

The regional or local labor office is primarily responsible for recruiting potential trainees and for the initial screening of the applicants. In most case, final selection of trainees is a joint effort of the labor office and the company.

EVALUATION PROCESS

After the training program has been delivered, the results are evaluated. Quick Start training should be continually evaluated and revised, particularly when new equipment and technology changes occur.

Instructor Evaluation

Evaluation of instructors should measure such items as communication and teaching skills, knowledge of the subject, and organization of the training.

Trainee Evaluation

Evaluation of trainee skills and knowledge acquired from the course is one of the most critical steps in the training process. Trainee mastery of the knowledges, skills, and abilities outlined in the job/task analysis and trainee performance of the task to the performance standard must be assessed adequately.

PROGRAM EVALUATION

The ultimate goals of the government/business and industry linkage are the ability to respond quickly to the training needs of industry, the improvement of the economic status of the region's business and industrial sector, increased economic development, reduced unemployment and a better life for the citizenry.

Quick Start training programs for new and expanding industries are usually supported fully or in part by government funds. In many cases, funding is shared by more than one government agency and also by the company involved.

Marketing Quick Start Programs

Companies must be made aware of the availability of Quick Start training and how it can support success for the company. The company must also be convinced that an ample supply of potential workers exists in the area, that these workers possess the basic qualifications to be trained, and that the training program will train them specifically for jobs in the company.

Quick Start Program Design and Implementation Process

Project Management involves three phases:

1. Preliminary Phase - The company is provided an understanding of the Quick Start Program and the overall and customized training needs of the company are assessed.
2. Developmental Phase - Job analysis, curriculum design, instructional materials development, and trainer selection are accomplished.
3. Implementation Phase - Trainees are selected, training is delivered, and results are evaluated.

PRELIMINARY PHASE

The preliminary phase includes:

- Becoming knowledgeable about the company
- Percent of trainees employed and retained
- Average cost per hire
- Contacting the company to provide program understanding
- Average cost per trainee
- Estimated return from
  - wages paid to those trained
  - increased tax revenues

Funding for Quick Start training programs is an investment. Not only will that investment improve the quality of life for people but also the investment will be recovered in the form of increased wages, an improved economy, and additional taxes from both industry and its employees.

CONTEMPORARY ISSUES IN PERFORMANCE MEASUREMENT FOR VOCATIONAL EDUCATION AND TRAINING POLICY: AN AUSTRALIAN EXAMPLE

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In the age of managerialism and public accountability in expenditure of tax-payers budgets, the concern with performance measurement of outputs and outcomes, public sector employees, systems of public policy programs and achievements are continuous issues for decision makers, politicians and those who implement government programs.

In Australia, the issues facing public institutions are no different. The Australian vocational education and training (VET) system is characterised by various attempts at a national and state levels to increase efficiency through the imposition of performance management systems. This paper will discuss and examine some of these different approaches to performance measurement issues in the vocational education and training industry in Australia. These issues may be familiar to many or they might have relevance to other countries.

VET in Australia

Of a population of 18 million, there are about 1.3 million people enrolled in government funded VET programs, mainly in Technical and Further Education (TAFE) Colleges. This equates to a full-time equivalent of about 475,000 students which is similar to the full time equivalent enrolment in the Australian university or higher education sector. Average expenditure per full-time VET student is about A$7,800 (US$5000) and A$11,800 per university student.

Australia has about 84 TAFE Institutes operating in more than 1100 locations and, there are also about 2,500 registered private providers, some of them schools, some of them firms, some of them community based providers in the adult community education sector, and some of them commercial providers of vocational education and training. There are also 500 adult and community education providers, many of which are recognised as private providers of vocational education and training.

Vocational education and training in Australia is co-ordinated nationally by the Australian National Training Authority (ANTA) but at the same time each of the eight states and territories in Australia has its own vocational education and training system. ANTA is responsible for the development of national policy, goals and objectives and the review of state training profiles. It is also responsible for administering a number of national programs the overall funding for the VET sector a national vocational education and training system.

The objectives of the National Strategy are to equip Australians for the world of work, enhance mobility in the labour market and to maximise the value of public expenditure on vocational education and training. Current ANTA priorities are to develop:

- a close interaction between industry and VET providers
- an effective training market with public and private providers;
- increased opportunities for educationally disadvantaged individuals; and
- improved cross sectoral links with schools and higher education.

In a recent speech, the then Director of ANTA, Mr Terry Moran identified the 4 major issues confronting VET in Australia.

- There is still too great a level of complexity and lack of transparency in the system.
- There is still the lack of a genuine national system as a basis for labour force mobility
- There are constraints on the rate of change in providers which means that providers often feel threatened by the need for change and find it difficult to achieve change in the timelines that those sitting outside the providers think are reasonable.

- There are also challenges arising from technology, most particularly the cost of getting it to all of those that need it and also the cost of overcoming the fears that many people have about the application of the new technologies to vocational education and training.

Mr Moran further indicated that for the next few years in Australia, there will continue to be public policy debate about the following questions about the VET system in Australia:

- Who pays for what?
- What should individuals and enterprise clients pay for, given that
- they already pay half the cost of vocational education and training?
- How do we achieve more equitable outcomes?
- How do we improve efficiency?
- What are the costs of the products that we use in vocational education and training?
- What should be the key performance measures?
- How do we pursue internationalisation?
- How do we work out some inter-sectoral issues as between vocational education and training and schools and vocational education and training and higher education in a way that doesn't make VET subservient to Universities?
- How do we achieve a better separation of roles within the State administration of vocational education and training?
- What are the future of TAFE Institutes? and
- How do we do more about developing a training culture within industry itself?

These public policy issues identified by the Chief Executive of ANTA are familiar to most public policy decision-makers with a VET system. It is also recognised that the solutions to these issues will be different for each country depending on the history, infrastructure, resources and size of the student population. However, this paper will give a brief overview of some of the progress towards resolving these issues.

Performance Review in Australia

Performance measurement has been adopted as the major strategy to achieve these changes and high level committees have been attempting over the past few years to develop meaningful performance indicators. Because the government policy requires an "industry driven" approach, the Australian National Training Authority has developed the following key performance measures (KPIs) to start a new measurement approach:

- Annual skills produced annually within the domain of formally recognised training Stocks of VET skills against desired levels
- Employer's views on the relevance of skills acquired through VET
- Student employment outcomes and prospects before and after participation in VET
- VET participation, outputs and outcomes achieved by client groups
- Actual public expenditure per publicly funded output
- Actual public expenditure per total recognised output

While some of these indicators can be measured easily, major problems have been found in the development of an agreed national 'output' measure to replace traditional measures such as 'enrolment' and course 'completion'. In the past, Australia has invested heavily in the development of a very highly sophisticated national statistical information system (AVETMISS) which requires all states and territories to report on VET delivery according to very precise measures. The system provides accurate information but there are concerns that it does not accurately measure the effort in the VET system and that it is not always possible to make valid comparisons between states and territories Problems are also associated with the measurement of desired skill levels and the measurement of employer's views about relevance of skills. Concerns have also been raised by States that the ANTA indicators do not take into account the provision of services to students and do not provide a meaningful assessment of the quality of education and training.

VET in Australian States and Territories

While these national developments are continuing, many of the Australian states are have taken developed their own performance systems which are progressively being used to improve quality outputs, the efficient allocation of resources, improved decision making and the reporting to government.

All states continue report according to the national standards but three states, Victoria, Queensland and Western Australia have progressively developed new performance review systems.

Victoria has relatively autonomous TAFE institutions and a central office, the Victorian Office of Training and Further Education (OTFE) has performance agreements with the councils of individual TAFE Institutes and/or University Councils. Key performance indicators focussing on outputs and outcomes in terms of student destination and client satisfaction are incorporated in performance agreements. Regular performance reviews are undertaken and the monitoring focuses on qualitative outputs with the aim of achieving continuous improvement. Resource allocation is linked to the process including a resource recovery strategy if the agreed profile is not delivered within a two year time frame. Performance data on funding, income sources, revenue, expenditure, staffing, capital utilisation and completion rates is collated and distributed among TAFE institutes to encourage self improvement by institutes.

Queensland has recently introduced resource agreements which set out the amount of funding each of the training providers receives and the amount of training that is expected to be delivered in return. It will use broad general performance indicators (skill outputs, VET outcomes, employer satisfaction, employment outcomes and expenditure) as interim key performance measures. Some additional performance measures are currently being assessed so that baseline data can be collected and future performances assessed.

The Western Australia Department of Training has developed an Outcomes Based Management model which incorporates strategic planning, resource and performance management. Performance data is gathered through a variety of quality assurance mechanisms and performance monitoring processes. A number of major client surveys (graduate satisfaction, graduate destination and employer satisfaction) were developed to measure client usage and satisfaction with services offered. Performance agreements emphasise the achievement of a "bottom line" target, and compliance with the profile matrix which is purchased by the Department. Agreements are for three years and do not specify courses but specify the approved level of funding (including special equipment and minor works items), reporting requirements, the refund mechanism to be applied if delivery targets are not achieved, and other responsibilities.

New South Wales has the largest VET system but there is no state-wide performance monitoring system. Resource allocation is generally based on the allocation in the previous year although there is quite a lot of planning activity to develop state training profiles and strategic plans. Nevertheless, individual institutions in New South Wales (each with approximately 200,000 students) often have very sophisticated performance monitoring arrangements.

Research and Development

To support all of these changes in the Australian VET system, there has been an extensive research program to investigate other public policy issues which impinge on the national policy in the Australian context. These include:

Community Service Obligations - Research has been undertaken to assess the value that can be placed on the non-commercially viable services provided by government service providers to disadvantaged groups and to isolated and rural communities. Initial research has suggested that this cannot be done very effectively but work is continuing in this area.

Capital Charging Options - New performance measures require the accurate calculation of expenditure or investment by government. However, traditional accounting measures have not taken into account the true cost of publicly owned buildings and capital equipment. At the same time, many buildings used for training have heritage value with high maintenance costs. Consequently, new measures are being sought to more effectively measure and improve the general utilisation of the whole of the vocational education and training system. Five capital charging models have been developed and some of these are being trialed at the present time.

Measurement of Course Outcomes - As outlined above, there is growing dissatisfaction with the use of enrolments as a measure of effort in the VET system. Increasingly flexible delivery approaches using non-traditional forms of enrolment or course completion) and the increased recognition of prior learning have also creating pressure for new output measures. Various international models have been considered but no one model as yet has been supported by all groups.

Measurement of student, graduate and employment satisfaction - For the past three years national graduate surveys have been undertaken and there is also a very broad based survey of employers. There seems to be general recognition that these could be substantially improved and research is continuing into new approaches to create appropriate and meaningful measures for satisfaction.

Equity of Access - Although most of Australia's population is based on a narrow coastal strip, there are also many isolated and remote communities which need access to education. Various approaches using satellite, Internet, tele-tutorial and many other approaches have been used with different levels of success. Work is continuing to develop cost effective ways of delivery and measures of delivery so that performance and effort for these groups can be guaranteed.

Industry Involvement in Delivery - ANTA has developed a large number of comprehensive training packages which can be delivered fully on the job by accredited organisations. Different models are currently being trialed to investigate ways to measure effort in this type of training and ways in which to fund activity within the workplace. As most of the employees will have some level of experience and prior learning there is a concern that training funds will be not necessarily be used to increase the number of people with skills but will be used to provide certification for those who already have skills.

Quality Systems - National quality principles have been developed and all states have been required to develop systems which comply with the national policy guidelines. Each state has a different type of quality system and over the next few years, the various approaches will be evaluated to improve the overall quality of VET delivery.

Qualifications - Australia has recently introduced a national qualifications framework. However, as described above, this is not yet used as a key performance measure. There is a recognition that some countries use VET qualifications as their one and only performance measure of a qualified workforce but at the present time, the Australian focus is on the completion of modules or parts of courses.

International Benchmarking of Performance - For the last two years, ANTA has expressed the view that there is a strong correlation between world competitiveness ranking and training effort and this argument has been used to seek additional funding for the VET sector. As a consequence, there is considerable effort being placed on the review of performance systems of other countries so that comparative performance can be measured in some meaningful ways.

Conclusion

The Australian VET system has attempted a comprehensive reform program and a total shift from traditional government funded colleges to a new industry driven training system. While there has been some progress this paper has described some of the major issues yet to be resolved. The new approach to performance measurement appears to be in the right direction but the selection of performance measures has created a totally new range of problems

In Australia, as in most economically developed countries, the development of performance measurement systems are necessary requirements to justify the investment of large portions of public resources in education, particularly in vocational education and training. Politicians and the system demand that public expenditure be spent well, prudently and achieve the objectives set by governments of the day. To make the massive, complex and diverse VET system to respond and achieve government objectives remain one of the most problematic issues in public policy in most policy areas.

The performance measurement issues identified in this paper are familiar to many countries with developed VET system and will be faced, to a greater or lesser degree. However, the major issue for Australia continues to be the consistency between public policy decisions and research findings of the VET system in Australia. This is the inevitable nature of a public policy -making in VET or any other area where the government decisions will be dominated by its electoral agenda and priorities.

Australia's VET system is large, complex and expensive but the jury is still out on whether, with all its measurement indicators and systems, people are better trained for realistic and meaningful employment in the future where personal fulfilment and satisfaction are part of the objectives of VET.

SOTEKEKO - A MULTI-PROFESSIONAL PROJECT IN VANTAA, FINLAND: New Working Models for Social and Health Care Professionals and Educators

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Practical and theoretical bases of the SoTeKeKo -project

In Finland there is a growing demand to find flexible models for health care and social services as it is no longer possible to produce these services by investing more money. Service organizations have to create flexible models for providing services that answer the clients' individual needs and the increasing demand for quality. In this process it is necessary to consider the local needs and culture. Within the various service sectors in Finland there has been a sharp division of tasks between social and health care professionals. In Vantaa, the 4th largest city in Finland, an attempt has been made to find methods for better collaboration through multi-professional team work.

Creative solutions for new working models are needed in professional education as well. The core aim of the social and health care education provided in Vantaa is to educate professionals and experts who are able to work in changing multi-professional and multi-cultural environments. The key qualifications are flexibility, interactive and collaborative skills, developmental skills and entrepreneurialship. Also there is a demand for adopting life-long learning, self-evaluation and independent learning as key elements of one's work. (Pelttari 1997). Encouraging the use of multi-professional teaching and learning methods is one solution in this process.

Collaboration between social and health care professionals and educators has proved to be essential in improving the provision of social and health care. In 1995-1998 the SoTeKeKo Project (So=social, Te=health, working life, Ke=development, Ko=education) has been a Finnish national effort to meet this need by supporting numerous projects to create innovations between education and social and health care. The national project was steered by the Ministry of Social Affairs and Health, The National Board of Education, The National Research and Development Centre for Welfare and Health and The Association of Finnish Local and Regional Authorities. The City of Vantaa has been active in SoTeKeKo through a large-scale local project with two major suburbs Korso and Koivukylä as target communities. The partners were City of Vantaa Department of Social and Health Care, Peijas Hospital, Espoo-Vantaa Polytechnic/Dept. of Health Care and Social Studies, and Vantaa School of Social and Health Care. There were also international partners representing the UK, Spain and Hungary.

The Vantaa project was launched by clarifying the concept of community and identifying some key needs in the two suburbs. Communities consist of individuals living in the same area, having social interactions which may be on voluntary or officially agreed basis. Also a sense of coherence within a community is very important in the present-day situation where the members of families may no longer be close to each other. (Juosila 1998). The local services are part of the social structure of a community. The Vantaa SoTeKeKo Project worked on enhancing and supporting the self-confidence and more active participation of the members of the two suburban communities. Another approach was to increase the cultural awareness of social and health care professionals, educators and students as well as the service delivery systems.

In assessing the needs of a community, it is necessary to focus on certain characteristics, such as the socio-demographic features, and the values, beliefs and history of the community. The people are affected and influenced also by the subsystems of the community including the physical environment, education and recreational services, safety and transportation, the local administration and political system, health and social services, communication, and the economic structure. These subsystems are also influenced by one another. (Anderson & McFarlane 1988, 1996).

The concept of multi-professional team work had to be defined before the Vantaa project proceeded any further. Collaboration was chosen as the key concept with some concrete criteria for assessment: partner awareness of the common objectives, structure of systematic planning, continuity of the relationship of the partners, equality between the partners, commitment, responsibility, and appreciation of one another´s work. (Pohjola 1991). Multi-professional team work has been seen as a tool for affecting the views and attitudes between partners in a project, and in SoTeKeKo it was one of the goals to make attitudes towards multi-professional team work more positive.

The Vantaa SoTeKeKo was a developmental project where new learning methods were discovered and tested. Learning was seen as an experimental, reflective, and self-directive process throughout the project. The students of social and health care were able to participate in and learn from the various phases of the project including planning, implementation and evaluation. They went also through a process of commitment learning how to tolerate uncertainty, as the project and its results were shaping gradually over the course of three years. (Knowles 1984, Eteläpelto 1993, Jalava & Virtanen 1995).

The methods and results of the Vantaa SoTeKeKo Project

There can be seen a clear process in Vantaa where each project team was working quite separately in the beginning, with, however, more and more multi-professional collaboration towards the end of the project. In order to create new services, students, teachers and professionals have met in regular meetings, training sessions and study visits. To launch real cooperation, knowledge and expertise have been shared by all members of each team. Social and health care professionals and teachers at all levels have participated in the project by sharing their experience and supporting the professional development of the students as tutors. Social and health care teachers have had a leading role in the various multi-professional teams. This was made possible by accepting the work for this project as part of their teaching load. Over the course of the project, education has assumed a proactive role on the side of public sector management. Students have joined the project through personal interest and mostly on voluntary basis, as part of their compulsory, alternative, or free-choice studies. The theoretical and clinical training sessions as well as the study reports have contributed to the project.

The international partnership has also played a significant part. Manchester Metropolitan University, Dept. of Health Care and Applied Community Studies, has provided expertise and ideas concerning multi-cultural nursing and community health development. Mrs Christine Greenough, Health Care Coordinator in Manchester area and expert of community care, has been working as visiting lecturer and consultant for Espoo-Vantaa Polytechnic providing personal and professional support throughout the project's various phases and activities. One of her main contributions has been to clarify the concept of community diagnosis and health promotion in social and health care education.

The Hungarian partner, Széchenyi István College from Györ, has in the person of Department Head Dr. Judith Nánási, shared valuable experience on community care in national and international projects. Dr Nánási joined one of the international training sessions in Vantaa. The University of Valencia, School of Nursing has provided the partnership its training experts as well as contacts and information. Valencia has run an experiment in community focused nursing education where students and teachers have collected data for community assessment, implementation and evaluation. Their experience has been used as comparative information in the project. Research reports and documents in Spanish have been translated into Finnish by Espoo-Vantaa students while on student exchange in Valencia.

In Vantaa, to assess the needs of the population, social and health care students gathered information of the health and social status of the population by using the framework of the subsystems of the community. They collected information through interviews, questionnaires and by analysing statistical data. This was brought together as community profiles and was jointly analyzed by the professionals in hospital and primary health care, and teachers and students. The analysis revealed a need to develop the continuity of care from hospital to home, to improve family councelling, to enhance the social skills of school children and, to give one concrete example, the need to find help for infants with sleeping problems.

One key area where new services were needed proved to be the continuity of care from hospital to home care. The local health care centres and their clients felt the traditional services for home patients were insufficient. For economical reasons, the patients can normally stay in hospital the minimum time needed and so the discharge process has become crucial.To improve the discharge process, a new practice was introduced where the students act as primary nurses during their clinical period in the hospital and during the patients' transition from hospital to home. They also made several home visits based on the needs of their named patient. Social and health care students were on several occasions matched to continue the patient relationship in home care as a team. This experience has given the students an opportunity to understand the differences between hospital and home care, encouraging them into multi-professional consultations and discussions as well as into seeking alternative solutions. For patients this has meant an increasing sense of security. For professionals of hospital and home care this has given an opportunity to meet each other and find ways for better exchange of information through, for example, IT links between different organizations and data systems.

Another approach was to open two multi-service open-care centres where activities have been run jointly by students, professionals and teachers as well as some voluntary organizations. These community "living-rooms" have served children, teenagers, young mothers, ethnic groups, the unemployed, and any people who wish to meet others.

In order to improve family councelling, the local child health clinic which was normally open only during office hours, was kept open also for a few hours a week on certain evenings. This was based on the notion that a great number of parents needed to discuss their children's problems after working hours. Sessions on various themes were arranged by students, teachers, and professionals enabling the students to plan real activities for health promotion as equal members of a professional team. The sessions have encouraged parents to create networks of their own.

The clinic started also arranging regular activities for children under 12 years after their school day was over. These were planned jointly by students, professionals and the children.

In a nearby day-care centre students and professionals have started a "sleeping school" for infants with sleeping problems. The team has looked after the child during several nights in order to regain his or her sleeping balance giving the parents an opportunity to rest. Normally the more severe sleeping problems are treated in hospital environment which totally differs from the day-care centre.

Conclusions

There has been a lot of positive feedback from the members of the various SoTeKeKo teams and also from the clients, which has encouraged the partnership to continue its activities. There has also been a lot of publicity for the Vantaa project through local and national newspapers, television and national professional conferences. Students have had a significant role in the dissemination process. The Steering Group for the national SoTeKeKo has chosen Vantaa as the example for a national case study.

The project has opened a challenging and innovative way of planning and implementing the provision of social and health care and the respective education and training. An awareness of the local community needs has proved to be the right way to start. Over the course of the project the multi-professional dialogue has been spreading to new organizations and between new professional and student groups. As a rule, students have found working in the project a motivating way of learning. They have learned to appreciate one another´s views. Regular multi-professional contacts during the whole study period could be the answer for better collaboration also in working life.

Multi-professional team work will be the central method also for future collaboration in the partnership organisations especially when planning new services for public and private sector, as it encourages innovation and creative learning. Regular multi-professional joint meetings between educators and working life have, in small steps, changed attitudes into a more positive direction to develop the social and health care system.

Introducing the SoTeKeKo activities as part of the normal services and as daily learning and teaching methods, will take a lot of multi-professional team work still, a more wide-spread commitment, and a well-designed dissemination plan as part of the motivation of all players.

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AFPA
TRAINING COURSE DESIGN

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Following the example of other training organisms, AFPA permanently resorts to training course designs' processes in order to create or modernise qualifying training products or specific training products. The method used to reach the result is important ; in fact, it depends whether we favour the approach by the final client (needs declared by companies) or the approach by the learner, we get training products more or less adapted to the economy needs or more or less assimilated by beneficiaries.

Considering a network of issues linked to the contemporary training context, AFPA has therefore elaborated a six phases training course design's approach which gives a central position to the approach by vocational skills. This approach beginning with the analysis of the work situation in order to translate it in a whole implemented skills allows the development of an appropriate training answer for each of them by translating them in pedagogical targets and scenarios.

I. TRAINING COURSE DESIGN ISSUES

In order to be performant, the training course design, as a « whole of procedures and methods implemented for conception, realisation, modernisation and assessment of a training action », must adopt an homogeneous, operational, consistent and comprehensible approach.

- Homogeneous approach :

In fact, we must lead to a standardisation of the approach for all the professional sectors in order to dispose of the same tools for each of them. This joint method's respect does not rule out the justified consideration of sectorial particularities (cultures, publics). The methodology used must also be able to be a common part for all the developed products.

- Operational approach :

Training course design must be the interface between two systems that are hardly difficult to get closer : working system and training system. Training course design allows to translate the required knowledge by the working system into abilities to get in the training system, and all of this in the best conditions regarding time and costs.

- Efficient approach

The approach used must in fact answer to the problematic of the training sector's actual context :

- Elaboration of specific products in order to satisfy specific needs,
- Implementation of individualised training courses,
- Intermediate validation and modularisation of courses,
- Consideration of the trainees' knowledge before they start the training courses,
- Generalisation of alternance training.

- Comprehensive approach

Training course design's methodology must be readable either for trainers, technicians and training consultants than for partners, orderers and customers : that is the reason why methodology must be based on a vocabulary shared by everyone (AFPA has made a technical training vocabulary book).

II. THE APPROACH

The approach is based on 6 successive phases which give six different tools :

- Sectorial and professional standby mode is common to working and training systems.
- Then we use 4 frames of reference : the first ones are about analysis of the working system : employment-activities-skill's frame of reference and certification frame of reference.
The last ones are more precisely dedicated to training system : positioning frame of reference and training frame of reference.
- Finally, the articles and conditions finalise and carry out the approach allowing its implementation.

1 - Sectorial and occupations monitoring

This permits the investigation and analysis of economic and occupational developments from the point of view of employment, qualifications and training.

It may concern :

- vocational sectors,
- types of employment,
- emerging activities.

It produces a sector and occupation based dossier which provides a tool for prospective monitoring in areas of training-employment.

The dossier provides :

- data relating to the selected vocational sector (statistics, financial data, studies),
- an analysis of the foregoing data in relation to employment, qualifications and training,

- a prospective synthesis which ascertains recommendations for training course design, marketing plans and training arrangements.

These sectorial and occupation monitoring dossiers are subject to annual review. A complete revision is systematically carried out every three years.

2 - Employment, activities and skills profile

This results from an analysis of vocational and economic activities. This profile permits an inventory to be made of the employment, activities constituting an employment and skills required for carrying out these activities.

The **employment profile** defines the responsibilities and content of the employment (particularly in terms of activities). It details the tasks and responsibilities, status, classification level, entrance conditions and the evolution that is possible.

The **activities profile** describes and locates the activities and operations, present and possibly future, linked with carrying out an employment. To further refine the analysis it is possible to group activities into families or to highlight main activities that are characteristic of an employment.

The **skills profile** results from an analysis of the activities: it describes and positions the skills required to carry out these activities. These skills are grouped by fields and types of fields (technical, organisational, relational, strategic). These skills may be placed within a hierarchy while also being from different natures : cognitive, gestural, behavioural....

The production of such profiles permits descriptive information sheets to be produced which represent the relationships existing between the various elements described.

The employment, activities and particularly the skills profile constitutes a prior step in the construction of training and validation profiles.

3 - The validation profile

The validation profile determines the conditions, criteria and means in relation to which a vocational qualification is validated.

This must be directly based on the employment itself, the employment and activities profiles and not on the training. This assertion is essential and is the basis of all the approach. That is the coaching of the certification appropriateness to the labour market needs.

In the validation profile are found all the conditions and means of assessment permitting the construction of recognition and/or award of certificate examinations (prior learning and vocational skills).

In a general manner, this profile indicates the required standard, it permits judgement of whether the objective has been met or not.

Finally, this profile :

- is linked to the diplomas and national certificates,
- takes into account the needs of both publics and employers: needs for easy identification of skills, comparison between existing certification systems, transparency in relation to entrance conditions and diplomas, tools for capitalising upon recognised prior acquisitions,
- is submitted for verification by the consultative bodies,
- may constitute a favoured instrument during quality certification (AFPA is in the certification approach ISO 9001).

The validation profile must be of utility in all phases of constructing adult vocational training qualifications: both during vocational training and the carrying out of the occupation. It is validated by the French Ministry of Employment and Solidarity and may be used by any organisation which is preparing trainees for the qualifications of this Ministry.

4 – Training profile

This constitutes an intermediary phase between the description of skills and the training action.
It refers to the vocational skills previously identified and states the training and pedagogical objectives. Furthermore, it specifies the training contents, its organisation (entire training path, modules, sequences), its modes (presentation style, alternating training, open and distance training) and its methods.

The objectives which figure in the training profile are organised into assemblies and sub-assemblies thus forming :

- the «validated certification training» intended for the acquisition of a qualification or diploma ;
- the «training module» (for the vocational activity) intended for the acquisition of a full range of skills permitting one or more identified occupations to be carried out: in this sense it qualifies the individual ;
- the «training sequence» intended for the acquisition of a specific skill.

The training sequence is the basic building block of the training. The sequences, through their arrangement and linking, permit suitable modules to be produced for learning one or more occupations and thus contribute to producing the training path intended for the acquisition of a qualification or diploma.

5 – Positioning profile

This permits the technical knowledge and vocational skills to be identified and assessed while taking into consideration the type of the public and its potential that it is aimed at.

It facilitates locating the optimal entry point of a beneficiary to a training programme. Its aim is to optimise the training prescription for one or several identified people in terms of their characteristics, needs and problematic.

It also allows to make personalised training courses well adapted to the required needs and more profitable for the company.

6 – General specifications

The training general specifications permit implementation by detailing all the actual specifications of the training product, including additional information related to training course design.

In the sense intended here, the general specifications constitutes a grouping of all the information necessary for the setting up, organisation and management of training arrangements or courses. It details the whole range of specifications inherent to the training product :

- training course description ;
- equipment and investment plan (material resources) ;

- qualifications of trainers (including further training) ;
- cost of the training ;
- pedagogical organisation and training mode (presentation style, alternating training, open and distance training) ;
- training supports and resource databases ;
- policy directions regarding external communications and technology monitoring.

SUPPORTING OF THE VOCATIONAL EDUCATION DEVELOPMENT BY INDUSTRIES AND MODEL OF "TRAINING SIMULATOR FOR PROCESS TECHNOLOGIES"

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TEGEV Foundation, Chairman of the Board

SUMMARY

The importance of vocational education is increasing with the rapid developments in our world, which implies the education of the technical personnel with advanced technologies. In the case of noncontinuous update of the education material, the technological knowledge will get very fast out-of-date and the graduates will only possess old and inapplicable knowledge. The solution of this dilemma lies in the industrial companies as a directing and pushing force. The updating of the education can only be successful, if the industry is the controlling element as the last chain of the consumers of the education and as a result the Turkish industry can experience advanced improvements. In this report the TEGEV foundation, founded by several industrial companies, and its objectives are introduced. The "Training Simulator for Process Technologies" built by these companies for educational and training purposes in the Izmit Anatolian Technical School is also presented.

1. INTRODUCTION

In our global world with continuous technical improvements the companies can only be successful in competition with best application of the technology. The machinery and the equipment of last technology can easily be provided worldwide. But only with a small percentage of exceptions the personnel to operate this machinery has to be supplied within Turkey. During the selection of these personnel a high technical education level is required. It has been shown that the expenses for the personnel education will cause a linear increase in the industrial manpower efficiency. The figures related to this subject are very impressive and some of them are given in Table 1 (*Indication, POWER Nov '97*).

Table 1. Manpower efficiency and educational expenses (per person)

Countries	Manpower efficiency ($/1992)	Governmental educational expenses ($/1993)
Denmark	23,410	1,790
France	29,535	1,245
Belgium	31,587	1,119
Gr. Britain	19,288	904
Germany	27,347	802
Portugal	12,255	490
Turkey	4,408	75

As seen from the table the educational expenses return always as increasing efficiency. While in France a manpower efficiency of $29,525 per year is achieved with educational expenses of $1,245; Turkey, with low expenses of $75 per year achieves an efficiency of only $4,408. The education has to be also suitable for the present conditions and the advanced technology. A research in the European Community shows the complete renewal of all vocational technical knowledge every 5 years. In the case of the net up-to-date vocational education, the personnel have to be additionally educated within each industrial plant, which is an extremely time consuming and expensive method. Today Turkish companies educate their workers in the plants, while they are also trying to improve the vocational education system in order to achieve better quality education in-place, namely in the schools. A sample for such kind of a voluntary organization is the TEGEV, the Foundation for the Development of Technical Education and Training.

2. TEGEV - THE FOUNDATION FOR THE DEVELOPMENT OF TECHNOLOGICAL EDUCATION AND TRAINING

Today the Turkish industry is at most in need of intermediate technical personnel, who possesses the latest technology and is also able to apply her/his knowledge in field. The Automatic Control Section, which is located in the Haydarpaşa Anatolian Technical School and supported by the German state Baden-Württemberg since 1986, started its education in the teaching year 1987/1988 and has given its first graduates in 1992. Due to the shortage of qualified personnel in automation in the Turkish industry, this personnel has been placed in the industry without any hesitation and no further internal education. Realizing the advantages of such an education the industrial companies decided to support this kind of vocational education and after 3 years preliminary work they have finally founded the Foundation for the Development of the Technological Education and Training, TEGEV, officially on the 07.12.95. The members of the foundation are listed in Table 2.

Table 2. Members of TEGEV

- Arçelik A.Ş. Eskişehir Tesisleri
- BASF-Sümerbank Türk Kimya San. A.Ş.
- E.G.O. Elektrik Aletleri San. A.Ş.
- ELBO Gaz Mam.ve Kontrol Cihazları A.Ş.
- Erciyas Biracılık ve Malt San.A.Ş.
- Festo San.ve Tic.A.Ş.
- ALSTOM Elektrik A.Ş.
- Mannesmann-Sümerbank Boru End. T.A.Ş.
- Mercedes Benz Türk A.Ş.
- M.T.U. Motor ve Türbin San. A.Ş.
- Siemens Nixdorf Bilgisayar Sistemleri A.Ş.
- SİMKO Tic.ve San.A.Ş.
- Türk Henkel Kim. Maddeler San.ve Tic.A.Ş.
- Türk Hoechst San.ve Tic.A.Ş.
- Volkswagen Elektrik Sistemleri A.Ş.
- Westdeutsche Landesbank A.G.

The objectives of the TEGEV Foundation are;

- to support the vocational education program developments
- to achieve the coordination between the schools and the industry and encourage the foundation of new vocational schools
- to organize vocational education seminars and support the education of intermediate technical personnel
- to organize vocational scientific meetings and to publish articles

- to support theoretical and practical education in technical schools
- to provide scholarship and training opportunities
- to support the increase of the automation technology sections in vocational schools
- to support the automatic control sections
- to support the Haydarpaşa Anatolian Technical School as an instructor education center and to encourage the innovation in all departments of this school

Within the past 2.5 years after the foundation of TEGEV it has catalyzed the opening of 6 further automatic control sections and the supports of the German State to such schools. Furthermore it supplies the latest technological equipment to these schools. It is still working on the arrangement of an Instructor Education Center within the Haydarpaşa Anatolian Technical School which will be opened in Autumn 1998. Additionally TEGEV has also played the major role in the matter of "Training Simulator for Process Technologies" presented to the Izmit Anatolian Technical School.

3. TRAINING SIMULATOR FOR PROCESS TECHNOLOGIES

In the chemical industry, as also in other industries, automation systems are utilized to a great extend. In many plants the production process is controlled with DCS systems for product, equipment and personal safety, in smaller plants with SCADA systems. To provide more advanced vocational education in these subjects to the students, the TEGEV Foundation has decided in its meetings to make an Training Simulator like a working example located within the plant of BASF-Sümerbank A.Ş. The objective of the Training Simulator has been to cover the basic process concepts and measurement/control systems used in the chemical industry. Figure 1 shows the flow diagram of the simulator prepared according to the DIN-Standards.

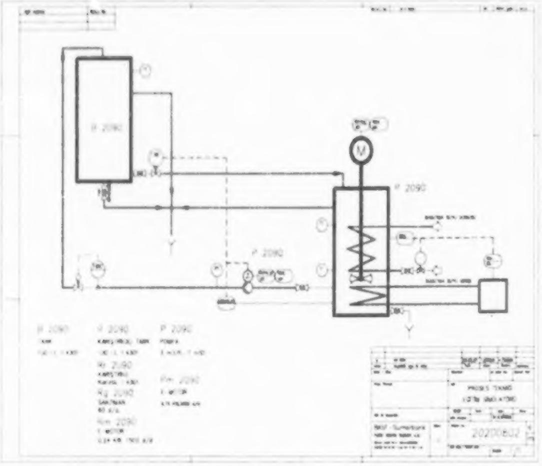

Figure 1. Training Simulator for Process Techniques

The mixed tank R2090 holds a liquid, of which the temperature is displayed with a bimetal thermometer and measured with a Pt100 sensor. The level of the liquid is measured by the hydrostatic pressure concept and also displayed by a glass tube. Electrical resistance coils are used for the heating of the liquid and for the cooling of the liquid the cooling coils. A pump takes the liquid from the mixed tank and pumps it to the tank B2090. A manometer displays the pressure at the head end of the pump and the flow rate of the pump is measured with a magnetic based sensor. The liquid level of B2090 is displayed by a glass tube and the liquid is allowed to return to the mixer with gravitational flow. To control the flow rates from and to the mixed tank, control valves are placed on these lines.

The flow rates, temperatures and level measurement values are sent by two different protocols to PLC and then to the SCADA system in the PC. With the signals from the SCADA, the PLC sends analog signals to both control valves, and digital signals to the mixer, pump, heating resistance coils and the valve of the cooling coils. Additionally the system can also be controlled by the SCADA. The mixer and the pump are operated by simple on/off control. The temperature of the liquid in the mixer is controlled such that the temperatures lower than a given lower limit activate the heating coils and greater temperatures than the given upper limit activate the valve on the cooling coils line. The level and flow control is done continuously by the more complex PID based control system. The pump is stopped at the lower limit of the level measurement in R2090 and at the upper limit of the same level measurement the flow control valve on the line from B2090 is closed. The measured values are stored in the computer and displayed on the graphics screen as trend lines.

With the explained Training Simulator for Process Technologies 4 main type of systems can be trained and instructions for these training possibilities are presented in the education documents of the Simulator:

1. Measurement and Control Systems
2. PLC Systems
3. SCADA and Communication Protocols
4. Overall System Technologies

During the realization of the Process Technologies Training Simulator many companies have provided various supports. The name of these companies are listed in Table 3. The prepared simulator is presented to the Kocaeli Anatolian Technical School and the students will have practical education on the simulator after their 4th semester. Additionally the instructors of the school have designed the electrical installation of the project and made the required installation. The expenses of the simulator are almost 70-80.000 DM, although with its synergetic effect the total value of the simulator is estimated as approximately 500.000 DM.

Table 3. List of Companies Supporting the Simulator Project

• BASF-Sümerbank A. (COORDINATOR)	• Endress+Hauser GmbH+Co
• FESTO A.Ş	• PiOMAK A.Ş.
• SAMSON A.Ş.	• Siemens Nixdorf A.Ş.
• TEGEV-Foundation for the Development of Technological Education and Training	• Wirtschaftsministerium Baden-Württemberg

4. CONCLUSION

In our advanced world the importance of the personnel education is increasing rapidly. As the customers of the qualified personnel the industrial companies have to participate, support and direct their training. Only with these conditions the minimum qualification of the employee can be achieved with vocational education. The TEGEV Foundation, with its explained structure and objectives, organizes several companies to work together by supplying financial and also directional supports for the education of personnel, who will possess the latest technology with the desired and necessary methods for the Turkish industry.

With the support of the companies the "Training Simulator for Process Technologies" is created and it presents a good example of the shifting of the high-tech training supplied by chemical industrial plants to the vocational schools. The simulator provided by small contributions of the companies will allow all students in the school to be trained with that advanced system utilized in the chemical industry, and the increased manpower efficiency by this education will be available for the whole industry.

Positive development in the vocational education will be achieved if the TEGEV Foundation and example projects like the modern training simulator are not limited to a few companies.

PROFICIENCY OF CANDIDATE TEACHERS WHO ARE GOING TO WORK IN INDUSTRY, IN ORDER TO IDENTIFY THEIR REQUIREMENTS, TO DEVELOP PROGRAM TO TOWARDS APPLICATION AND EVALUATION

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1 ABSTRACT

In this survey, it has been tried to describe the proficiencies of the candidate teachers who are going to work in industry in order to identify their education requirements, to define their programs, to analyse their contents, towards designing developing, application and evaluation. The survey has been realised on 50 students selected randomly among five sections of last year students of vocational Education faculty of Gazi University, in the analysis of the data obtained from the groups, arithmetical average, LSD and single directional variance analysis were used.

In the accordance with the result obtained from survey, candidate teachers deem themselves at average level on the above mentioned proficiencies towards increasing quality in industry, when looked at the meaningful differences related with proficiencies among sections it is seen that there are a lot of meaningful differences among candidate teachers at graphics section and classical clothing section. Candidate teachers require education on this issue.

1.1. Introduction

In our era, in which international relations increase and technological developments are accelerated, a comprehensive modification and transformation motion called "Information technology" is being lived. All of the institutions that produce service and goods, mention about total quality. To catch quality and standard, in other works to have ISO 9000 's , gradually becomes the target of all institutes. Among the indicators of being able to ranch the target, there are the qualifications required by new technology and merciless competition media that comes together with globalisation. In Velde's research (1997), they wanted to draw the attention to the new creative proficiencies such as problem solution, initiative, critical thinking that the employers need for their employees. What is important here, is to make the people gain the formation required by the new technology and competition media. It is char that, this can only be released within the framework of a very large sized "training and education" scenario and through the support of the state (Atasayar 1998,2)

Trained manpower is the mast effective input of the economies of the countries. When the physical source limitations in the developing countries are considered , the existence of trained manpower gains more importance, at the end of researches carried out, organised educational institutes, are able to meet only ¼ of the qualified work power in number required by industry ,(Gülgün,1997,5).

Another survey (Özer ,1997) is towards proficiencies of experts specialised in developing man power working in the field called "education expert" or "in service education expert" working in the organisation in accordance with the result of the survey , the general proficiency level of the experts is at "average", here the importance of the education of the experts, specialised in developing manpower has been emphasised.

The institute our, which train teachers in vocational education field, are also responsible for this issue. The graduates who will work in industry, are important as regards to men sources required by the era in other to be able to gain the proficiency of an education expert as well as their own field and to be able to help to improve the quality at the workplace beginning from this determination, vocational education faculty of Gazi University, has realised a survey to describe how the last year students own their proficiency in preparation, application and evaluation programs towards requirement, and to identify education requirement in industry, and to identify education requirement in industry .

1.2. The and significance of the survey

The survey has been realised to describe the proficiencies of candidate teachers who are going to work in industry, in order to identify their education requirements of the industrial institution concerned to define their programs, to analyse their contents towards designing, developing, application and evaluation and answers to the following questions were looked for:

1. What are the proficiencies of the candidate teachers who are going to work in industry, related with the identification of education requirement, describing programs towards requirement analysing designing, developing, applying and evaluating the contents of the program.
2. Is there a meaningful difference between the above mentioned proficiencies and the sections of candidate teachers?

By means of a technique developed for collecting data, it is hoped that the data obtained will contribute to the studies on professional standards and total quality management, furthermore, it will be beneficial in the development of the programs of institutes that train teachers in the field of vocational education.

1.3. Method

Description method has been used in the survey. It has been tried to identify the education requirement of the industrial institution where the candidate teachers will work, to define their programs, to analyse design, develop apply and evaluate the contents towards describing the proficiencies, The survey has been carried out on the data based on the views of candidate teachers . The above mentioned proficiencies of the candidate teachers are limited with the behaviours defined in questionnaire.

The universe of the survey consists of students at the last years of vocational education faculty of Gazi University in 1997-1998 academic year, sampling has been made by 50 students, chosen randomly among five different departments of industry . The departments which formed sampling are as follows: (classical clothing, ready made clothing FEN (family economy-nourishing), graphics and textile.

The questionnaire format used in the survey, has been developed by taking the views of the experts into account further more at the end the preliminary trial, by using Cronbach Alfa coefficient, the reliability calculation of the means have been carried out. The result was found as 94. In the questionnaire format, these exist the above mentioned proficiencies for candidate teachers and against each proficiency , there are grades and numeral values such as (5) very sufficient, (4) sufficient, (3) sufficient in median level, (2) little sufficient, (1) insufficient in order to came the candidate teachers to evaluate themselves, while evaluating there values 4.2. and above has been accepted as sufficient. The range between 3.4 and 4.1, has been evaluated as sufficient in medium level though not fully sufficient, through a little training it can be brought to a sufficient level.

For the statistical analysis of the graded scaled data obtained from questionnaire formats, the arithmetical average has been calculated and for the meaningfulness test of the differences that came out, LSD (The lowest meaning fullness) and single directional variance analysis have been used.

1.4. Findings and comments

In the table, the proficiencies of the candidate teachers who are going to work in industry, related with identification of the education requirement" "describing the program", analysing the contents" ,"design-development", implementation", "evaluation" and comparison of proficiencies of candidate teachers with their department, have been given. When the table is examined, all of the candidate teachers who participated in the survey, think that they can realise their above minted proficiencies towards increasing the quality at workplace it average level, the sufficiency averages of the candidate teachers are between 3.4. and 4.1. This level, is not sufficient, as explained in method section; candidate teachers can only reach to the required level through education, Furthermore, with an average of 3.2. on "preparation of long term development plan", they find themselves insufficient. While the candidate teachers deem themselves sufficient in medium level in most of the activities related with increasing quality in industrial, it is natural not to find themselves sufficient in preparation of a long term development plan. In accordance with survey of Özer (1997), the general proficiency level of education experts working in organisation, is "average". When the above mentioned proficiencies of the candidate teachers are compared according to their departments, it is seen that the candidate teachers study's in classical clothing department deem themselves insufficient with majority compared with those studying in other departments. They are especially au insufficient au insures such as" preparation of application plan for survey ", "analysing and evaluating the data collected", "reaching a decision on which of the problems that aroma, can be solved through education", "identifying the field that the program includes (communications skills, mechanics etc.), "identifying the level, period, quality, structure of the programs the place where may will be carried out, their relation with other programs, the characteristics of the participants", "identifying the transactions (proficiencies)", "putting the transactions in order ", "writing the anise bared on proficiency", "analysing the data obtained at the and of application", taking the necessary measures (by taking advantage of the data collected, developing the existing programs, inaugurating new programs)", and preparing long term development plan". Candidate teachers of classical clothing department deem themselves sufficient only on issues such as "preparing educational (overhead lamp transparency, brochures etc.)"and "using suitable teaching method, teaching and vehicles". This result males one think that the candidate teachers of classical clothing, perceive themselves rather as teachers.

In accordance with the table, the candidate teachers of the graphics department, constitute the most brilliant appearance. When looked at the meaningful differences related with proficiencies among departments, it can be seen that there are a lot of meaningful differences between the candidate teachers of graphics department and classical clothing department. The candidate teachers of grapples department in majority deem himself as sufficient in maid level in the activities towards increasing quality in industry, while they deem themselves sufficient on issues such as identifying the level, period, quality, structure of the programs the place where they will be carried out, their relation with other programs the characteristics of the participants " and "putting the transactions in order for teaching ", they deem themselves sufficient on issues as "selecting the teaching strategy, method and environment"; "developing of application plan", "preparing of teaching material", "using suitable teaching method, technique and vehicles and "analysing the information obtained at the end of application", candidate teachers of graphics department, deem themselves more proficient in the shills with teaching issues, however they deem themselves insufficient on activates that nemesis date decision taking such as describing program, analysing and developing its contents. The reason of at can be in courageousness and being inexperienced.

The situation is not different at "ready-made clothing", "family economy – nourishment", "Textile " departments, the candidate teachers in there departments deem themselves with majority at average degrees on the above mentioned proficiencies. When taken into account the close relationship of read-made clothing with industry, it could be expected that the results would be much more different them classical clothing. The meaningful difference in only result is rather thought-provoking.

TABLE: Proficiencies of the candidate teachers, who are going to work in industry, related with "identifying the education requirement", describing program", analysing the contents", "designing – developing", "application", "evaluation and comparison of departments of candidate teachers with their proficiencies.

PROFICIENCIES	1 Classical Clothing X	2 Readymade Clothing X	3 *Family Economy* Nourishment X	4 Graphics X	5 Textile X	Total X	F	LSD
Identifying education Requirement								
1. Identifying the information to be collected towards operation	3.4	3.6	3.4	4.0	3.4	3.5	1.1087	-
2. Identifying information sources	3.4	3.5	3.9	4.0	3.9	3.7	1.1446	-
3. Identifying the methods to be followed – up in the collection of information	3.4	3.8	4.1	3.9	4.0	3.8	.7172	-
4. Preparing implantation plan for research	3.0	3.3	3.6	3.8	3.9	3.5	1.8682	-
5. Analysing and evaluating the information collected	2.9	3.2	3.2	3.6	4.1	3.4	2.4556 *	1or5 2or5 3or5

(continued)

PROFICIENCIES	1 Classical Clothing X	2 Readymade Clothing X	3 *Family Economy* Nourishment X	4 Graphics X	5 Textile X	Total X	F	**LSD**

Describing the program

6. Deciding on which of the problems that arise, can be solved through education	3.0	4.3	3.9	4.1	4.4	3.9	4.9770 *	1ar2 1ar3 1ar4 1ar5
7. Identifying the area that the program includes	2.8	4.0	4.0	3.7	4.0	3.7	3.4034 *	1ar2 1ar3 1ar4 1ar5
8. Identifying the level, period, quality, structure of the program, its place to be carried out, its relation n with other programs and characteristics of the participants	3.1	3.8	3.1	3.2	4.0	3.4	2.6565 *	1ar5 3ar5 4ar5
Analysing the contents of the program								
9. Identifying the transactions (proficiencies)	2.7	3.4	3.7	3.6	4.1	3.5	2.8461 *	1ar3 1ar4 1ar5
10.Selecting the transactions	3.4	3.3	3.3	3.5	4.1	3.5	1.800	-
11. Putting the transactions in order for education	3.2	3.6	3.3	3.3	4.0	3.4	1.3301	-
12. Analysing the transactions	3.9	4.1	4.4	4.0	3.8	4.0	.5207	-
Design and Development								
13.Writing the anise based on proficiency	3.0	3.4	3.8	3.8	4.1	3.6	2.6852 *	1ar3 1arv 1ar5
14. Developing the structure of a program	3.7	3.7	3.2	3.8	3.7	3.6	.6840	-
15. Selecting the strategy, method and environment of teaching	3.7	3.8	4.2	4.2	3.8	3.9	1.0653	-
Application								
16. Developing application plan	3.5	3.6	3.9	4.5	3.3	3.7	2.8551 7*	4ar5 1ar4 2ar4
17. Preparing teaching materials	4.4	3.2	4.1	4.5	3.4	3.9	4.1310	2ar3 1ar2 2ar4 1ar5 4ar5
18.Using suitable teaching method, technique and chides. Evaluation.	4.3	4.1	3.9	4.4	3.7	4.0	1.0727	-

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(continued)

PROFICIENCIES	1 Classical Clothing X	2 Readymade Clothing X	3 *Family Economy* Nourishment X	4 Graphics X	5 Textile X	Total X	F	LSD
Describing the program								
19. Application of measurement chides based on proficiency	3.4	3.7	4.0	4.1	3.5	3.7	1.3119	-
20. Annualizing the information obtained at the end of application	3.2	3.7	3.8	4.5	3.2	3.6	4.1131	1or4 4or5 2or5
21. Taking the necessary measures	2.9	3.5	3.4	3.9	3.6	3.4	1.1271	-
22. Preparing the long term development plan.	3.0	3.1	3.4	4.1	2.7	3.2	2.6366 *	4or5 1or4 2or5

* $P<0,05$

1.5 Results and Suggestions

1.5.1 Results

The results of the proficiencies candidate teachers, who are going to work in industry to increase the quality at the workplace concerned, related with "identifying education requirement", "describing the program", "analyzing its contents", "design-development", "application" and "evaluation" con be summarized as follows:

1. Candidate teachers deem themselves at average levels (3.4-4.1) in the above mentioned proficiencies to increase the quality in industry. Furthermore, on the issue " preparing long-term development plan", they find themselves insufficient with an average of 3.2.

2. When the above mentioned proficiencies are compared with the departments of the candidate teachers, it can be seen that the candidate teachers in majority studying in classical clothing department, find themselves insufficient when compared with those studying in other departments. Candidate teachers of classical clothing department find themselves sufficient only on issues such as "preparing teaching method,

technique and vehicles". According to this result candidate teachers of classical clothing rather perceive themselves as teachers.

3. When looked at the meaningful differences among departments related with proficiencies, it can be seen that there are a lot of meaningful differences between the candidate teachers of graphics department and classical clothing department. However, they deem themselves more proficient than other departments' especially ready-made clothing department. The candidate teachers of graphics department, find themselves sufficient in skills weighted with teaching, and they find themselves insufficient in other activities which require decision making such as describing program analyzing and developing its contents.

1.5.2 Suggestions

1. The programs of the institutions which train teachers in the field of vocational education should be reviewed and developed. Especially the programs containing scientific research methods and techniques, development of programs and professional analysis, in other words the programs containing teaching design, should be taken into evaluation and when necessary they should be arranged again.

2. Implementations aimed to develop the proficiencies of the candidate teachers, who are going to work in industry, in order to increase the quality at the workplace concerned, in real media on "identifying educational requirements", "describing program", "analyzing its contents", "design-development", "application" and "evaluation" should be included.

3. Surveys, based on observation and trial, should be carried out for candidate teachers who are going to work in industry in order to increase the quality at the workplace concerned, on their proficiencies related with "identifying education requirements", "describing program", "analyzing its contents", "design-development", "application" and "evaluation".

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THE EVALUATION OF VIEWS RELATED TO EDUCATORS-BUSINESS MANAGERS COOPERATION

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SUMMARY

The cooperation and communication between the educators and the business managements that make the educators' graduates employed would provide an important feedback in terms of the improvement of the programs applied in educational institutions. The present study-in progress-which is based on the justifications mentioned above is being carried out with Hermeutical Method on the basis of the data, observations and investigations obtained from the administrators and instructors in five vocational / high schools at Anadolu University (during 1997-1998 academic year) and from the people who are responsible from the running of educational services within three main operating institutions in Eskişehir. This study aims at identifying what is understood from "coordination", how the coordination principles are evaluated by the sides, and what the evaluations of the sides about each other at the positive or negative levels are. Also, some suggestions related to achieving a more efficient coordination have been put forward.

1. INTRODUCTION

The increasing number of studies about total quality management in industry and in private sector influences the business managements' expectations from educational institution to a great extent. Previously, educators and business managers used to work in totally different fields in different ways; today, though, they could talk about cooperation for achieving the "better" and the "more quality" (Göktepeli, 1997; Güngör, 1997).

The business managements which negotiate with the suppliers who provide raw material to the business management during total quality management applications, and which give importance to cooperation and communication with internal and external clients were far too late to realize that the educational institutions, giving pre-service training to their most significant potential manpower, are important suppliers for them. When they could realize that started with the studies carried out about total quality management in educational institution; when the educational institutions started to search the expectations of business managements that were considered as external clients.

The business managements which give importance to manpower try to meet the educational needs of the personnel via in-service training during team-formation activities. The importance and the vitality of such educational activities are undebatable (Gülgün, 1997). Yet, it would be difficult and expensive to get the expected results from in-service training activities which are not based on a sufficient pre-service training (Taymaz, 1992).

Although a rapid technological devlepment and change are observed in the business managements due to an intensive competetive atmosphere, educational institutions-which are accepted as public service in many countries-are not involved in technological developments; or the technologies received cannot be exploited efficiently (Koçak, 1992). As a result of this, the manpower trained is unable to meet the expectations of the bussiness managements sufficiently; and besides the loss of time and source for the country, negative attitudes towards education might occur.

The cooperation and communication between the educators and the business managements that make the educators' graduates employed would provide an important feedback in terms of the improvement of the programs applied in educational institutions (Kavak, 1992b). The feedback obtained from the business managements is highly significant for vocational / technical education that is more expensive when compared to academic education. Another benefit of the coordination between the educators and the business managements is the financing of vocational / technical education. It is not possible to provide the educational institutions with every new develepment observed in the field of technology, and to make use of it as an educational tool. However, within the framework of cooperation between the school and industry, students can have a chance to see the materials they will use in the future, in their natural working environments via training / practicing applications, and that could contribute to the improvement of students and educators (Kavak, 1992a).

The present study-in progress-which is based on the justifications mentioned above is being carried out with Hermeutical Method on the basis of the data, observations and investigations obtained from the administrators and instructors in five vocational / high schools at Anadolu University (during 1997-1998 academic year) and from the people who are responsible from the running of educational services within three main operating institutions in Eskişehir (Göka at al, 1996; Bayrak 1995).

This study aims at identifying what is understood from "coordination", how the coordination principles are evaluated by the sides, and what the evaluations of the sides about each other at the positive or negative levels are. Also, some suggestions related to achieving a more efficient coordination have been put forward.

2. FINDINGS AND DISCUSSION

In this research, the first step was to talk to the college administrators to collect information about the colleges. 2 of the colleges were in the Yunus Emre Campus where Anadolu University Rectory was located; one was in the iki Eylül Campus of the University, again in Eskişehir. One of the other two colleges was in Bozüyük, a town about 40 km. far from Eskişehir; and the other was in Bilecik, a city center about 80 km. far from Eskişehir.

Teaching staff has a significant role to play for an educational institution (Demirtaşlı, 1997). Based on that, firstly information about the college teaching staff has been collected. According to what was collected, it has been found that the colleges, which aim at training the mediating manpower needed in public and private sectors related to various occupations, had not had the sufficient teaching staff yet.

Need for the instructors is met by demanding help from the relevant instructors in various faculties within the University and from the public and private sector institutions' personnel around. Besides, it is observed that in some colleges the instructors are provided by other universities. The instructor problem observed in the colleges of Anadolu University can be claimed to be the same in the colleges of other universities throughout Turkey (Kavak 1992a).

After the information related to the colleges within the university had been gathered, 100 instructors were interviewed-based on the research goals-first by telephone, then on the face to face basis. Those instructors consisted of the administrators and instructors of the colleges, as well as the instructors who were teaching in those colleges yet were employed in other units of the University. The distribution of the instructors according to their titles is as follows: 3 Professors, 7 Associate Professors, 10 Assistant Professors and 80 lecturers (1 Professor, 5 Associate Professors, 5 Assistant Professors and 25 lecturers have been employed in different faculties in the University).

During the interview, the insturctors were firstly asked what they thought about "university-industry cooperation" concept. That particular question was answered by all of the instuctors as in the followig "Generally, cooperation with industry is both important and a requirement for all higher education programs". They believed that the cooperation could be accomplished by mutual informative activities (conferences, seminars, . . . etc.) as well as by the training / practice activities of the students.

When they were asked about the current cooperation conditions, the views of the instructors were observed to differ. While some of the instuctors described the conditions as totally insufficant; some other emphasized that the conditions were sufficient yet needed further improvement.

When the reasons of the differing views were searched, it was found that the instructors who were not in the college personnel list but employed in other units of the University, and several instructors employed in some colleges found the conditions sufficient. When analyzed, it was determined that the instructors who were in the personnel lists of other faculties thought in that way because they believed there was a two-way relationship between the faculties they work in and industy.

The research conducted in the field concluded that the instructors, as a result of interactions with the managements, realized the current developments in the management, and that they could benefit from that experience in the classes they taught. (Ferguson 1997). In that particular study, the instructors were found to have similar opinions. However, it was noted that university-industry cooperation, in terms of students' training / practice activities in particular, was limited to the faculties.

Several intructors who were employed in the colleges were also found to evaluate the cooperation conditions available in university-industry cooperation as positive. That observed situation was believed to originate from some characteristics of the colleges. The reason for that is that the colleges which could cooperate with the managements efficiently were located outside the University main campus, and that there were no other higher education institutions with which managements could cooperate about similar issues. These observations make one think that the colleges appear to be less important when compared to the faculties which give training in similar subjects; and therefore they are not much recognized.

In the interviews made, it was also concluded that one of the factors influencing cooperation was the length of education in colleges. In the two programs that give training in the same field (Tourism and Hotel Management) at graduate and associate degree levels, the four-year one was observed to have effective cooperation with the managements, and the two-year one was noted not to be able to cooperate at all. The reason of not being able to cooperate is claimed to be Eskişehir's not being a tourist area.

In the interviews conducted with the executives responsible from the running of educational services in 3 industry managements in Eskişehir area regarding university-industry cooperation, the business managers were also observed to have similar views. Business managers also believe that cooperation with higher education institutions is important and necessary. Business managers point out that they frequently cooperate with universities through the activites like conferences and semenars as well as through training practice opportunities created for the students. However, it is seen that they prefer faculties rather than the colleges (especially the ones with 2 year associate degrees) to cooperate with.

That situation observed in the colleges within Anadolu University in particular; and in the colleges of other universities in general can be accepted as a sign indicating that the colleges are not recognized by the managements as needed.

When the studies in the field were analyed and in the light of the interviews conducted in the present study, it was conclued that the colleges, which were established to train the manpower needed by industry by giving occupational education, had so many problems. Although one part of the problems encountered by all higher education programs, another part could be said to be specific to the colleges only. Some of the observed problems are as follows: the shortage of the qualified instructors, the non-recognition within the university and in the working environments, the resource problems found in some colleges (more when compared to the faculties), not being taken up seriously by the students, establishment of new departments without a careful analysis of country and regional conditions . . . etc. Those problems are thought to become on obstace between the college-management cooperation.

Findings obtained from the study can suggust the following points as solutions to the problems which stop cooperation and which affect the quality of education in colleges in a negative way:

- The colleges have been observed not being able to develop sufficiently and to become beneficial without the managements they could cooperate with. Because of that, when colleges and their departments are being established, the conditions of the country as well as the region should be taken into cosideration.
- It is thought that the insufficient recognition of the colleges by the universities is caused by their insufficient recognition within the university as well. In order to overcome that problem there should be sufficient number of instructors in the relevent field in the personnel lists of the colleges. It is also thought that the employment problem

could be solved by providing the young employers in these schools with enough promotion opportunities. Besides, it would be help ful to make the administrator and instructors in the colleges aware of the rationale why their educational institution was established, and to make them understand the significance of their institutions for the well-being of their country.

- Vocational education is an expensive one. Therefore, it can be suggested that special arrangements can be made to complete a single program which constitutes first an associate degree followed by a graduate degree rather than having two separate programs-as a faculty and a college-within universities.

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INCREASING THE PRODUCTIVITY OF VOCATIONAL AND TECHNICAL EDUCATION BY MEANS OF MULTIMEDIA TOOLS: WinSchool

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ABSTRACT

Efficiency in technical and vocational education and expectations of the industry from this kind of education are possible only if education programmes are developed, improved. Besides, presentation of these programmes are of vital importance.

To increase this efficiency the use of multimedia tools must be used by both the learner and the teacher to increase their interests. This medium will not only improve the skills of the learner but will ease the teacher's task.

Many researcher, works have been put into application to realise this. In many places, where the applications have been realised, education and training have become more efficient.

This works aims to make suggestions to increase the efficiency of these multimedia tools.

1.INTRODUCTION

If the aim is to improve the quality of education and catch on to the age it is necessary to provide an answer to the issue of social and individual needs. Education models applied are expected to help technological , scientific and economic development of our country.

Education programmes should be developed in order to satisfy the expectations of the industry through this education and to make technical and vocational education. Besides, presentations of this programmes are very important.

The issue can be raised for the trainer as well as the learners. If we consider the "learner" concept. The learner has to prepare his/her project while attending the classes without giving breaks every day, every time when technical and vocational education are considered. In this model where "trainer teaches, learner listens", which is a common technique; learner is apt to lose his concentration that he had in the beginning. As a result of "stimulus response" process the trainer will also be influenced negatively that he will not be efficient any more. When this negative effect ends the performance of both the learner and trainer will be increased. However, while improving the performance, time spent for education will decrease.

Here, we offer the suggestions for presentation, not for the improvements of the programmes.

1.1. THE NEED FOR MULTIMEDIA

Since knowledge is considered to be a kind of power today, human kind is the most important object of this power. For healthier and efficient generations it is a must to invest in human kind, which means to invest in education. Computer technology, which enable us to reach as much knowledge as possible in a short time is of vital importance to improve education.

Learners have possibility to use computers not only at home but at school they are attending. It is possible for them to the their homeworks, calculations and to use relational database. This provide them to index, compile the knowledge, as well as draw sketches, write musical pieces, to prepare magazines, brochures, papers.

These can be varied. On the other hand using computer helps the learner to enjoy the thing, he is doing and increase success.

Multimedia applications which are the result of development in technology contribute to education, as computer aided education do. It is useful to mention multimedia technology.

1.2. MULTIMEDIA TECHNOLOGY

Multimedia applications need additional/extra hardware items on personal computer. This makes personal computer to turn into multimedia personal computer.

These sub-hardware equipments are sound bluster. CD-ROM drive and speakers on personal computer. Scanner, camera, audio-visual equipments, projectors, slide-projector are much more professional comparing to the ones mentioned above. It is obvious that hardware shows differences in accordance with computer systems, aims and service. Except these, multimedia software has been developed to use these products efficiently.

User interaction is peculiar to multimedia. When the computer presents the knowledge the user can manipulate and obtain the knowledge according to his/her needs. This kind of use is defined as interactive multimedia.

Computer technology not only combines more than one medium in one product but enables interactive use. As a result of this interaction, the user become active rather than passive, and effect the process according to his/her will.

Two technological development has helped the formation of technical background of interactive multimedia. Optical memory system is one of these. Great amount of knowledge can be loaded into optical discs. Volumes of encyclopaedic knowledge in a small disc is processed and replaced not only knowledge but as video, animation, graphic and sound units. The technology of sound and video process in computer is the second important development. As a result of digitalisation of video&sound information in computer. Data processing subject, using audio-visual units, has become an efficient method of giving information and provided the opportunity of enjoying from the activity as well. Knowledge has become a functional, audio-visual game, not a burden any more. Interactive multimedia is the creative use of these two technologies.

1.3. COMPUTER AIDED EDUCATION AND TRAINING

Education and training have become much more enjoyable by means of projecting writings, which have been on the screen of the computer, with the help of over-head projector; repeating the experiments, language, concepts during university education, the period before and after school. At the same time materials used for experiments and time have been saved as a result of the use of computers. All these can be supported with animation and simulation. A great deal of knowledge can be stored and made functional with the help of computer use.

Today education and training should be supported by audio-visual units; animations pictures, narration with pictures; graphics. Here it is especially very important to mention animation.

With the help of multimedia presentation has become more efficient. The reason why it has become more sufficient is that human kind can remember %10 the things he has seen. %20 of what he has heard. Human kind can memorise %50 of what he has both heard and seen. This rate has been increase to %80 by means of multimedia technology since it provides interaction between activities.

Multimedia aid enables the learner to control the knowledge rather than present it theoretically. Thus, the learner himself can reach the knowledge needed and while trying he can learn which is correct which is not.

Multimedia applications are used by many nations. In our country many researches have been being carried out. However, the learner's not being familiar with this applications cause problems. It is advisable for the institutions to provide the learners work shops to inform them on this issue. This will be a must for educational reform.

Considering today's technological developments (especially university education) in the future trainers will be responsible for guiding the learner to reach and then use the learner to reach and then use the knowledge; not the only source responsible for giving them the knowledge.

Besides, private institutions and state institutions are carrying out researches on the subject. The works of TUBITAK- The Institution of

Electronics Researches and Information Technologies- multimedia team is of world standard.

Regarding private institution electronic press/publication products have been used widely and other valuable products are provided to the users of multimedia and computer.

In spite of all these developments education is the less influenced field among all others. The most important problem is efficient projects, which will provide necessary equipment, have not been improved yet. In the light of all the information given, WinSchool is suggested as multimedia tool.

2. WINSCHOLL: MULTIMEDIA TRAINING LAB

It is a system changing the computer medium into a multimedia lab. This system also provides CD-ROM, internet and distant education.

It consist of WinSchoolStudio which is hardware section, Winmark software which provides the teacher to use the computer like a board and Winmark software enabling to use multimedia equipments. This system can be installed on the present network and using one CD-ROM driver, one sound bluster and one video graphic card it is possible to give audio-visual training. It helps the teacher in many ways.

In WinSchool lab the teacher can send the image, his voice to the learner's computer or recall the screen image on the learner's computers. If he wants he can make other learners to follow the process taking place in one of the learners computer.

Using this programme it is possible to freeze the screen and using the mouse lines, which have different colours and thickness, can be drawn; different parts of the screen can be maximised. This process draws attention to a particular point or the subject is stressed by means of these applications.

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A STUDY ON THE VOCATIONAL INTEREST OF GIRLS ATTENDING GENERAL AND GIRLS VOCATIONAL HIGH SCHOOLS FROM VARIOUS SOCIO ECONOMIC LEVELS

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ABSTRACT

This research was conducted on girls attending general high school (GHS) and girls vocational high school (GVHS), at low, middle and high socio economic levels in Ankara. The data used to determine socio economic levels (SEL) for Ankara was obtained from Prime Ministry State İnstitude of Statistics.three general high schools and three girls vocational high school were included in the research. 50 students was participated from each school and research was conducted on totally 300 students.

In order to determine interest areas " Kuder Preference Record Vocational Form CH " and for personal and familial informations " Personal İnformation Form " were used.

He result of this study were tested by " G significancy Test ". Finding of this study imply that socio economic levels, school type, birth order, mother's and father's occupation and their educational level have effects on the interest areas of girls.

Interest is defined as, without giving any special effort directing to an action for pleasure and it shows cotiniuty in individual life. Child, who born without any interest, developed their interest by experimentation. İnterest are closely related with being ready for learning and could be change with age. Preschool children have various kinds of interest areas. When a three years old children likes playing by oneself, elder children are interested in group play. When they reach adolescent age they are interested in organized activity fields. There is a parallelizm between physiological and mental development and interest. However, there is ontogenetic differences in the development of interest. When new interests arise, infancy period interests could be changed or limited. (Cole and Hall1970, Yavuzer 1992, Şahin 1992, Kulaksızoğlu 1998). Vocational interest which substantive by students or measured by inventories, is a combination of various interests. Vocational orientation of adolescence seperated ınto periods. At the begining of adolescence, they are concentrate on specific vocations, they started to evaluate and try themselves to these vocations. At the end of adolescence they do their work selection in a sincere and concience way. When they were concentrate on specific vocation, they think their abilities, opportunities and requirement of that job. This type of interests are more continious and permanent. This period is called as actualize vocational interest. In this period adolescent decide on a specific vocation and they started to prepare themselves to that vocations.(Strong 1954, Özoğlu 1977, Özgün 1979, Tan 1989)

Environmental and individual factors effect the development of vocational manner. As a result of the interaction of these factors a new position exist and it effects vocational choices.Age, sex, inteligence, physical environment and socio economic levels have an important effect on the formation of vocational interest and in school selection.So adolescent must be carreful in choosing career.(Carter 1940, Roe 1957, Lipset 1962, Kulaksızoğlu 1998). Research about these topics could help adolescent and their families in choosing career. We think that career choosing directly effect society, social accomplishment and social fortune. So determination of vocational interest of girls attending GHS and GVHS from various socio economic levels and from the results to make suitable guidance to them are the aim of this study.

PROCEDURES AND METHODS

This research was conducted on female students who are going on GHS and GVHS, at low,middle and high SEL in Ankara. The data used to determine SEL for Ankara was obtained from Prime Ministry State İnstitude of Statistics. three GHS and three GVHS were selected randomly 50 female students from each school were participated in this study (totally 300 students) .

In order to determine interest areas of students " Kuder Preference Record Vocational Form CH " (Özoğlu 1977) and for personal and familial informations " Personal İnformation Form " (which is constructed by researcher) were used.

The relation between interest areas and SEL, school type, age, birth order, father's and mother's occupations and their educational levels and department which they were attending were tested by chisquare analysis. Because of low frequency in the table " G significant test" were applied.(Düzgüneş vd. 1983)

FINDINGS AND CONCLUSION

The aim of this study is ; to determine vocational interest of girls who are going on GHS and GVHS and effects of attending department on vocational interests. The results were discussed.

Table.1. Vocational interests of girls according to socio economic levels

	SOCIO ECONOMIC LEVEL							
	LOW			MIDDLE		HIGH		TOPLAM
	number	%	number	%	number	%	number	%
Outdoor	8	2.67	9	3.00	7	2.33	24	8.00
Mechanical	20	6.67	14	4.67	9	3.00	43	14.33
Computational	12	4.00	14	4.67	16	5.33	42	14.00
Scientific	23	7.67	15	5.00	10	3.33	48	16.00
Persuasive	8	2.67	4	1.33	10	3.33	22	7.33
Artistics	11	3.67	8	2.67	10	3.33	29	9.67
Literary	11	3.67	22	7.33	20	6.67	53	17.67
Musical	5	1.67	9	3.00	14	4.67	28	9.33
Social Service	2	0.67	3	1.00	4	1.33	9	3.00
Clerical scale	0	--	2	0.67	0	--	2	0.67
	100	33.33	100	33.33	100	33.33	300	

G statistics: 27,43225 SD:16
P<0,05

When we look at the table one we see that there is a strong relations between interest areas and socio economic levels ($p<0.05$). Girls from low SEL generally prefer scientific and mechanical areas (7.67%. 6.67%) girls from middle SEL generally prefer literary and scientific areas (7.33% . 5.00%) and girls from high SEL they mostly prefer literary (6.67%) SEL effect vocational interest because the opotunities given by the families would be different at each levels. Kağıtçıbaşı,(1991) has shown that low income part of the cities and especially villages have insufficient environmental stimulus for cognitive and language development of children. Thompson determined that while young people at low SEL generally prefer occupations with high income and confidency. adolescent at high SEL generally prefer occupations where they feel leadership. In many research it was found that SEL has an important effects on vocational choices. (İsmailoğlu 1991, Aral Çağatay 1992, Bozkurt 1993, Kaya 1998).

When we examine on the distribution of interest areas according to school type and department which they were attend, students from GVHS generally prefer literary (17.33%),and students from GHS prefer computational interest areas (23.33%). School type and department were found to be significantly effective on interest areas ($p<0.001$) In GVHS 56.67 percent of students from department of child development and they prefer literary (11.33%) 23.33 percent of students from department of dressing and prefer mechanical interest areas (6.67%), 6.67 percent of students from drawing department and they prefer artistics interest areas (6.00%) and 13.33 percent of students from department of computer science and prefer mainly computational and persuasive interest areas. In GHS 56 percent of girls from Turkish-Math and Turkish-Social-Math departments and they prefer literary interest areas (13.35 %), 18.67 percent of student from science department and prefer scientific interest areas (8.67 %), 17.33 percent of students from the department of Math-Science and they prefer scientific interest areas (7.33 %), 4,67 percent of the students from Forein Languages department prefer outdoor and music interest areas (1.33 %) and 3,33 percent of the students from social science department prefer literary interest areas (1,33 %). According to these results we could say that, students from GVHS show differenceses between their interest areas and attending departments. But in GHS interest areas closely related to the attending department. From these results we could conclude that student at GVHS weren't attending the department which is related to their interest areas so their school preference were wrong. But students from GHS were directed to their interest areas. In this aspect we could say that families who send their children to girls vocational high school haven't any care on interests of their children and have no expectation for university education. And some families prefer these schools because these schools give education only for girls. In GHS class promotion system is in used and according to this system students are attending to the department in which hers highest avarage score fit into the attending department. Because of this system determined interest areas fit into the attending department. Başaran 1991, made a research on students attending 11th grade in industrial vocational high schools. He wanted to determine the relation between their departments and prefered university departments. He found that there weren't any relation between these topics. It was found that school type, birth order, mother's and father's occupations and their educational levels beared significant effect on the prefered interest areas, whereas age beared no significant effet.

In the formation of interest, birth order could be effective because there could be strong interaction between children and changing environmental conditions with birth order. Mother's and father's occupational situation could be directed child to a proper interest areas. Children could mould their parents or they wanted to have higher career than their parents. Mother's and father's educational level has also effect on children interest. Parent with higher education were more interested in directing their children and determining their interest areas.

RESULTS AND SUGGESTIONS

The purpose of this study is to determine the effects of school type, age, birth order, father's and mother's occupations and their educational levels on specifying interest areas of female students who are going on GHS and GVHS. Except age other factors were found to have an important effects on interest areas. In the formation vocational interest school selection and these factors have an important effect so adolescents must be carefull in the selection of vocation.In order to be succefull in work and have a good life. As we take these results into cosideration there are some variables in the determination of interest areas. Directing individuals to an occupation which is suitable to her interest areas make them be succesfull and happy. In order to direct them to a suitable interest areas resposibility belongs to their family and schools. In these topics we must determine their interest at 8th grade and they should be guided.

In order to increase the awareness of the family we could use media. Media must construct special programs in order to give knowladge about child development and education and teach how to improve communication between child and adult.

The purpose of vocational high school is to provide technician for industry but today graduated students couldn't find job in their areas and they decided to have universty education. At university they prefer different department from their educational background, since vocational school curriculum program couldn't give enough knowladge for university entrance exam most of the students couldn't attend university. In order to prevent this situation vocational school curriculum must be renewed. To provide university education which is related to their subject areas university entrance exam have to measure vocational knowladge. If we construct such exams vocational high school would be favorable again. Another way to increase the demand to vocational high school , to construct or open new department which give easy job oppotunities when they were graduated from these schools.

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GENERAL SITUATIONS OF VOCATIONAL HIGHER SCHOOLS AND SOME PROPOSALS IN ORDER TO INCREASE THE EDUCATION QUALITY

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1. ABSTRACT

Nowadays, being enliven of a brisk development towards science society, changing of production systems and the technologies based on this, the formation of more quality and more cost customer based administrative understanding by the globalization of international competition increase the demand to educated, open-minded, responsible, outstanding and quality man-power. This makes the information and people important source of the 2000's. It's possible to posses these developable resources and these developments by behaving in global scale, utilizing the new technologies, producing and using the knowledge, and educating the people according to their purpose, skills, and knowledge in a convenient manner. In this study, general situations of vocational higher schools were investigated in physical possibilities, lecturer, students' state, the profiles of the student admitted to schools, and education factors based on practice in industry. And then on the basis of the above-mentioned results, the suggestions for growing the manpower suitable for the requirements of science society in the direction of increasing the education quality in vocational higher schools were undertaken.

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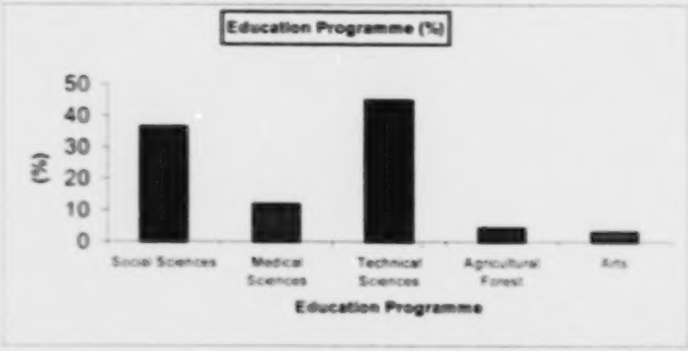
2. HISTORY and GENERAL SITUATIONS of the VOCATIONAL HIGHER SCHOOLS in TÜRKİYE

The background of Vocational Higher Schools date about 1950's when Technical school were founded. In 1975 YAY-KUR was charged with educating junior staff and 45 Higher Schools were opened under the control of YAY-KUR. Until 1982 the number of V.H.Ss reached 59. After 1982 by way of YÖK Low; no. 2547 all the Institutions of Higher education, including V.H.Ss were integrated under, universities, Nowadays, the number of V.H.Ss reached 400 and includes the following broaches; healthy, Social Sciences and technical Sciences.



***Reference:** (YÖK, 1997).*

Figure1: **Number of Vocational Higher Schools and their student numbers due to years.**

*The technical programme was performed only 286 Vocational Higher Schools in our country but, education is in the international standards at only 30 of them (**Pırnar,** 1997).*

The number of student registered at V.H.Ss after the university entering examination in 1996 is about 68.000. However 10 to 40 % of this figure didn't either 90 for registration or registered but didn't attend their schools (**Gürbüz,** 1997).

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As illustrated **(in Table.1)**, Vocational Schools and Students capacity in which reflected by the qualification and having good ability of support personal education in our country were increased by five times in between 1983 and 1996 years period.

Table 1: The ratio of Vocational Higher Schools in our country against the years.

Years	School Numbers	Student Numbers
1983-84	77	34560
1984-85	83	45182
1985-86	88	52514
1986-87	95	55302
1987-88	106	58730
1988-89	118	66381
1989-90	108	61642
1990-91	125	70801
1991-92	132	75828
1992-93	171	89056
1993-94	235	105063
1994-95	320	125878
1995-96	372	148991
1996-97	377	175000

Reference: (YÖK, 1997).

The ratio of Vocational Higher Schools is about 13 percent against to higher education. However, this ratio is about 30 percent in the developed countries such as; %66 in Australia, 63 % in Singapore, % 44 in JAPAN and %37 in USA (**Fig.2**).

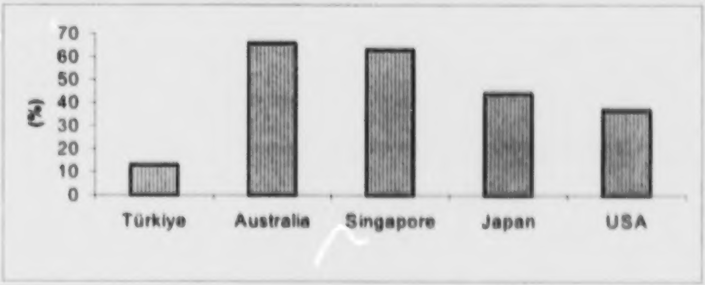

Figure 2: The Distribution of the VHS in Türkiye and in developed countries.

Most of the Vocational Higher Schools were concentrated in around the Agean, Mid-Anatolia and Marmara regions (as shown in **Table 2**).

Table 2: **Vocational Higher School and programme number with different regions.**

Regions	Numbers	Programme Number
Aegean	**71**	**323**
Mid. Anatolia	**81**	**325**
Marmara	**76**	**309**
Eastern Anatolia	**38**	**160**
Black Sea	**30**	**119**
Mediterranean	**34**	**112**
Southeastern Anatolia	**24**	**83**
TÜRKİYE	**354**	**1431**

Reference: (ÖSYM, 1996).

Although the number of students, who were registered in the years between 1983 and 1996 increased from 34.560 to 175.000, the ratio of the registered students is still about 10 percent in all. It is also stated that this ratio was about 11 percent in vocational schools of higher education and 20 percent in all higher educational schools and universities (**ÖSYM**, 1996).

2.1. Physical Facilities

It is known that the equipment, laboratory with library, dormitory, classroom facilities, social and cultural affairs centers which are also strictly necessary to improve and qualify the education are still insufficient in this kind of schools. For example; the amount of useful closed area in some countries differs from 17.1. to 42.9 m^2/student such as; 42.9 in England, 20.6 in North America and 17.1 in European Countries but this value is also about of 8.8 m^2/student in Türkiye (**Polat-Kumkale**, 1996).

2.2. Education Staff and Student Ratio

As the 148.991 students were totally educated in VS, during the period 1995-1996 the number of instructor is about of 3274. Therefore; the ratio in between instructor and students is about of 45.5. This ratio is comparatively higher than the value of World Standards, which is about of 10.

It is also known that; the female percent of the 148.991 students is about of 35 and 65 percent of male in 354 VHS, during the years 1995-1996 and 29,310 Students were graduated from those schools and 99 % of the students are female while 61 % are male.

The educational level, which is about of the teaching board, is accomplished with the instructors especially having B.Sc., MSc. and a considerable amount of Ph.D. degrees. The other parts of them are also having academic career with title of Prof., Assoc. Prof., and Assist. Prof. (**Table 3**).

Table 3: **Education staff numbers and percentages in VHS in the period 1995-1996.**

Education Staff	Number	Percent (%)
Professor	**66**	**2.02**
Assoc. Professor	**31**	**0.95**
Assist. Prof.	**179**	**5.47**
Others	**2998**	**91.57**
Total	**3274**	**100.00**

Reference: (DİE, 1996).

2.3. Student profile coming into VHS

50 percent of the students graduated from high schools concentrating in business and industrial bases and the other 50 percent of them are from general High Schools with different bases (as shown in **Table 4**).

Table 4: **Percentage distribution of students with different high school bases.**

Type of High	Percent (%)
Highschool	**43.3**
Commercial High School	**23.6**
Vocational High School	**24.2**
Others	**8.9**
Total	**100.00**

Reference: (POLAT, 1996).

3. CONCLUSION AND SUGGESTIONS

A quality education and educating quality manpower occupy an extremely important place in regard to the development of the country and it is an inevitable fact that all institutions of education should afford in the direction of these targets. Because of this, in Vocational Higher schools, which are important institutions of education and educate the sub-staff who are needed industry, the quality of education should be increased and improved. The subject should be studied. Both in schools themselves and outside-in the society itself, in industry and in official institutions, and without losing time, within the universal standards, plans and programmers should be prepared and put into practice.

The most important elements of quality education are students, teachers, physical means, tools-material and understanding of method. In this respect, for a quality education the institutions of education should educate a man-power that will be able to accord itself to changing and developing technologies and to new employment opportunities, that will be suitable for the necessities of know-how society. Educational system should be regulated so that it can produce technology; lack of substructure and source should be removed and education should be democratized.

As a result education should be made suitable for the necessities of the society and economy.

Therefore; **Some suggestions to improve the quality in education**

1. Students should have easy access to other library resources in VS. Library users should shave also key into worldwide information networks using a wide range of printed and electronic databases.
2. Encourage the students to learn at least one foreign language and improve their abilities to communicate efficiently.
3. The facilities at the VS should have very co-operative and student welfare officer must have attached to help students with aspects of living and studying in VS.
4. Providing numerous outlets for social activities on the campus: sports, clubs, musical societies, etc.
5. Utilizing the student to become social, dynamic, eager to take responsibilities and also flexibility to changes.
6. Improving the student's ability to learn and use the knowledge with the new communication technologies.
7. Interview among students, teachers, coordinators and other staffs must be well progressive.

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CONSTITUTING OF COUNTRY MODEL IN VOCATIONAL AND TECHNICAL EDUCATION AND SOME ASPECTS ON ITS FUTURE

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ABSTRACT

In order to train vocational manpower in our country, for the last 15 years especially, many higher schools giving activities on various fields of the vocational and technical education have been established.

At present a society in which everybody knows and defends the quality - and by means of the individual and institutional interactions on the subject of education also - the standardization, efficiency and quality control will qutomatically become true. Society's consciousness, first of all, ensures the specialization on every subject, person and environment. Thus, in our present educational systems, at some occupational disciplines particularly, the constituting of country model and accelerating the studies started on these fields are inevitable.

As the production of knowledge will be finally transformed to social power, to reach the level of developed countries, the share to be taken in science and technology should be increased, and the quality control policy in education should be planned very well.

1. INTRODUCTION

Knowledge and human are important resources. Power of countries in international fields is directly proportional to the production of knowledge, the number and of the experience and competence gained, and the variety and intensity of the trained manpower.

To be successful in life, a man should be pleased with his job and it should be necessary for him to evaluate the time as a national wealth. It is a known reality that a man is to be successful if he carries out whatever he knows, besides being well-informed. As a result of the beginnig of the 8 - year compulsary basic (primary) education since the 1997-1998 academic year, the reconstruction projects of the vocational and technical education in connection with the institutions of secondary and higher education have been more important than before. The future of Turkish people is related to the plans in the economical, social and the other changeable contemporary features. In the end, for our country, a constituting of country model should be raqidly ensured, and for this reason the following topics should be assessed according to the qualifications claimed:a- determination of the kinds of education disciplines by presenting more importance, priority and intensity ;b- preparation of education programs by taking supports of the other institutions;c- Standardization in education d-increasing of quality and efficiency ; e-training and increasing the variety of manpower needed .

2- AN ASSESSMENT ON VOCATIONAL AND TECHNICAL EDUCATION

In general, as the most of institutions in education do not efficiently use their resources and capacities and there are some unstabilites in the distribution of the academic staff, it should be necessary to take some meauseres. To do this there will be a necessity for a council and its effective coordination.Thus, the processes given below should be kept in mind : a- the entire resources to be used in an efficient way ; b- working together and effective distribution of jobs to be ensured ; duplications to be prevented ; education services to be moderately distributed all over the country; plans and assessments to be made better.

The status of unsuccessful students who are not good enough in undertaking the production of knowledge and serving a need of manpower, must take account of priority in present problems. The distribution and training of manpower needed for our country should be done according to the universal standards.

At present, and consequently for the future, some fundamental criterions in evaluating of our education institutions may be listed as follows: building facilities, equipment rigging, laboratory and library possibilities, computer education, book facilities, lesson contens, project lessons, training staff, fields of training and practice, attendance obligation, scholarship possibilities, social and cultural activities, etc.

Thanks to the 8-year primary education, the people who are to train by this system will be easily adapted to the community and alterations, and will choose their professions more accurately and appropriately.

The vocational and technical high schools, which their main goal is to train manpower such as a technician, have been unfortunately faced by a decrease in their quality and efficiency.

The percentage of the graduated personnel who work at their own occupational areas is decreased and, on the other hand, the personnel who wish to enter the university are being faced with some difficulties in the examinations.

At present our secondary education institutions may be classified by two groups : a- vocational and technical high schools b- high schools. In these circumstences, for the vocational and technical high schools, the number of school kind is 53 and the number of school is 1632; for the group of high schools, the number of school kind is 21 and the number of school is 2930. According to the data obtained from the results of universitiy entry examination of 1997, concerning the last class students of 500 116 in Turkey, the success of the vocational and technical high school of 132450 registered students is 14.5 % while the other group's is 19.9 %.

If the status of success and the number of registered students are carefuly evaluated, some new assessments and arrangements are to become necessary on the structure and objectives of high schools. Thus occupational high schools should be simply divided by two separate schools such as vocational or technical and then, especially the functions of some occupational high schools should be transfered to a center of vocational and technical education. Whereas the personnel who were trained at technical high schools should easily take a place at a relevant university in case of applications made for an academic program.

According to the 2547 numbered legislation called "Higher Education Law", many occupational higher schools have been established in various fields since the publication of the law on 6th November, 1981.

These higher schools, giving a two-year education at university, have been gone in to operation in many provinces and districts. Thanks to the new arrangements made by the

Council of Higher Education, some activities have been aimed as follows: to train academic staff in higher quality and enough number;to do high-quality research and numerous qublications; to increase the number of institutions in higher education and distribute all over the country;to train the well- educated personnel in academic atmosphere by a contemporary manegement ; to establish occupational higher schools for training higher manpower that is a great necessity in our country's priority.

To summarise very briefly, as will be seen the quality and efficiency of education in the higher schools are not as desired. Especially, as recognized at many vocational higher schools, the success of students is decreased because of the incompleteness of buildings and areas, lack of academic staff number, deficiency of the contents of education programs, insufficiency of resaurces, etc. On the other hand the resources are mostly wasted and consequently the high-quality personnel may not be trained as required by the industrial sector. For this reason, in the near future, a coordinating project in many branches between the vocational high schools and vocational high schools and vocational higher schools should be compulsorily begun to work. In accordance with the knowledge and technology, a "country model" must be immediately constituted for a higher quality and efficiency.

3. REASONS ON TRANSITION TO THE COUNTRY MODEL

Owing to the raqid developments in knowledge and technology the professionals should normally be trained in conjuction with the qualifications mentioned before Thus, for the integration with the

404

European Union and consequently to the world, the personnel related with their own occupations will be surely trained to work in other countries and will compete by high-quality in the world standardizations. For the country model, the necessary basic (fundamental) criterions should be immediately taken into consideration for the personnel as mentioned below: a- education in academic atmosphere, b- trainig by a higher school system for a professional occupation, c- increasing the quality and efficiency in education system by means of the integration with the world standardization.

A typical example on this subject may be given in the field of health education which is being called as "Project of the Reconstruction of Health Education". In our country, after having decided to train the assistant health personnel (midwife, nurse and sanitarian) at the level of developed countries, the relevant education has been started at the 2-years Health Care Professional Higher Schools since the 1992-1993 academic year. Then, owing to the decisions being taken, the registration of new students of midwife, nurse and sanitarian to the 4-year health professional high schools has been ended by the 1996-1997 academic year. Under the circumstances, the function of these above mentioned programs will be completed by 1999.

To increase the qualifications of the midwives, nurses and health officers from the secondary schools, the launching of the licence education was decided. On 22nd Nowember 1996, owing to the protocol signed between the Ministry of Health and Head of Higher Education Council, 81 high schools (including their physical facilities also) have been converted to the 4-year health higher schools.The majority of total 79 health higher schools have registered the students to the programs of midwife, nurse and sanitarian according to the results of university entry examination and consequently have gone into operation since the 1997-1998 education year. It is a known fact that the education based on the high school will be also gone into operation by the other branches whenever the conditions ensured. In the some time, beside the organized health education inservice training, public health training activities and integration programs in schools have been also accelerated.Instead of the 3-year Institutes of Health Education the 2 new faculties called "Faculty of Health Education" have been also established at the Universities of Ankara and Marmara, and these faculties have accepted the students to the departments of health education and health managament since the 1996-1997 academic year. Besides this it has been planned that the training staff for the higher health schools will be specially ensured by means of a licence completion program organized for the graduates of institute of health education.

4- CONCLUSIONS AND SUGGESTIONS

Turkey's everlasting existence is, of course, related to the adaptation with the developments in the world. Thus, integration with the world, standardization, quality and efficiency in education should have a priority. During the man's life, the most important 3 concepts are : a- education, b- quality and c- efficiency.

To found the "country model" in education, it is necessary to encourage a strong cooperation among the state, university and private sector. It is now the time to mobilize entire of the manpower and physical resources. In order to achieve and control development, the society should firstly make efective preparations in the fields of knowledge and technology, and then step towards "knowledge society". In this frame of mind some aspects on the future of vocational and technical education may be summarized as below: .

- *To accelerate the process needed for the development, the scientific research and investigation, which is the most effective tool, must be used.
- To repair the broken relation betwen the education and employment, the projects planned for reconstructioning must be accelerated.
- Education policy of our country must be reviewed ; scientific and technological development tools and methods must be searched,
- Vocational and technical education must be rationalist, contemporary and appropriate for the aims defined.
- The students who intend for the vocational and technical training must discover their own abilities by means of an effective supervisory system, and get assistance from the guidance counselor in determining their future,

- At universities, the vocational education programs must be applied according to the defined quality, efficiency and standardization. As soon as the necessary coordinations are ensured the relevant committees or councils must begin to work,
- Standardization must be set at all of the education institutions, and quality control in ensuring of the standardization must be held at a certain level,
- The rate of total number of students in the vocational and technical education institutions must be increased up to 65 % and consequently the importance of occupational education must be well understood in the economical and social prosperity,
- Quality of the academic staff must be raised whenever necessary,
- In order to have better trained manpower, the relevant private sectors must fairly involved by establishing better schools, and the percentage of private schools in this field must be then increased,
- To complete the integration between the secondary and higher education, the "country model "and consequently world standardization must be ensured and met respectively.

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THE AFFECTION OF POLITICS FOR ARCHITECTURAL EDUCATION TO OCCUPATIONAL QUALITY IN GLOBALIZATION

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ABSTRACT

At the end of the 20th century educated person, trainers and lectures should examine the traditional methods of education according to needs of the student's role in the community. In this context, all of the occuppation groups have to join together on a model of accredation system and politics in this period. Professional education in architecture is evidence for very seriously caos as more than the other grups of occupations that have some volues particularly the points of view support them. The reason of this caos is the affection to the formation of occupational institutiones and education programmes that architecture has so much multi-focusal structure. There are three main cognitives and proffesional interest field-politicy in accordance with the globalization process in architectural education: These are design, construction and productivity of knowledge. According to this approach, the needs of reaching the environment which have the better quality are being appeared more important including the interaction of professions. In proffesional education, the approach of connecting the objectional of western world with the subjectional of eastern world is giving a tendency to the educational politicses for the creavity of students. The correct

commentry of globalization is being provided by using a good communication. At this point of view , having the benefits of Information Technology -IT- in all universities and schools are providing us better educational quality for professional degree.

1. INTRODUCTION

The substructure of education in Turkiye is not in harmony with the conditions into cycles of change in the world. Therefore, in the future, the proffesional person thinking about the advantages of using technology, precedencing the environment, understanding the management, percepting the needs of the business world and the importance of some special subjects and having the advantages of being different will be succesful. In this context, all of the occuppation groups have to join together on a model of accredation system and politics in this period. Professional education in architecture is evidence for very seriously caos as more than the other grups of occupations that have some volues particularly the points of view support them. The reason of this caos is the affection to the formation of occupational institutiones and education programmes that architecture has so much multi-focusal structure. There are three main cognitives and proffesional interest field-politicy in accordance with the globalization process in architectural education: These are design, construction and productivity of knowledge.

According to this approach, the needs of reaching the environment which have the better quality are being appeared more important including the interaction of professions (Hacıhasanoglu,1995). In proffesional education, the approach of connecting the objectional of western world with the subjectional of eastern world is giving a tendency to the educational politicses for the creavity of students. The correct commentry of globalization is being provided by using a good communication. At this point of view , having the benefits of Information Technology -IT- in all universities and schools are providing us better educational quality for professional degree. In the method which is going to be suggested that even if students, lectures, teachers and educational programmes are supported by IT, more effective results will be provided by globalization for the educational quality.

2.THE IMPORTANCE OF POLITICS FOR ARCHITECTURAL EDUCATION IN GLOBALIZATION

Under the effects of globalization, while important shifts in the types of services architects are expected to provide are realized, the need for redefination of architectural identity is started to be discussed at the professional arena. Functions and services of architectural profession is gradually changes all over the world. Also globalization tendencies and multi- national projects necessitates the internationalization of the profession.

Architecture including the all activity of the fields is a profession which has to reform in return for changing environmental conditions (Sey,1995). The heterogeneous nature of the educational tradition in architecture is partly responsible for the menu of choices currently available to the prospective architectural student. As an international instution of architectural occupation U.I.A. (International Union Of Architects) has started to offer some periodical programmes and give an important place in the fields of the occupational practice and architectural education since 1993. These proposing programmes about the occupatinal practice and architectural education, however, in 1996-Barcelona U.I.A.'s congress, are suggested.There are three important discriptions in this suggestion:

- The defination of the profession for architecture which begins with user. Architect is an researcher and planner or designer, and he does practice and control his works. All of this process for production is a whole. However, architectural education must to have the quality of this whole formation.
- Education period: At least 5 years and 2 years for occupational practice. For the special conditions, it can be only 1 year occupational practice.
- The basic aim is to win the ability of design in architectural education.
- At present, the technological, communicational and transportational opportunities and international platforms which have impact on the mobility in education and profession, in turn have led to the institutionalization at the international level (Dulgeroglu,1995). The studies of Law of Architectural Profession and participation into the

European Economic Community are in the agenda of Turkey at present. In 1914, The Association of Collegiate Schools of Architecture (ACSA) accepted "the standart minima" which making a standart style for the performances of architectural schools (dulgeroglu,1995). But in 1932, these standarts have leaved and in 1940, this stuation has completed by established The National Council of Architectural Registration Boards (NAAB)- Milli Mimarlik Esdeger Sayma Kurumu in Turkish (Wilkens,1988). It is the most important step in the accreditation process of architectural school's programmes.

The accreditation or equal crediting in Turkish must be taken up in relation to the right to professional practice in order to take another point of view in the discussion of accreditation regarding the qulity in Architectural Profession. In countries which apply accreditation , the right to use to diploma does not necessarily mean the right to practice the profession.

3. THE AFFECTION OF USING TECNOLOGY TO OCCUPATIONAL QUALITY

Quality is a one of the most argument subjects in the universities. If it is considered as architectural education, The main elements affected the professional quality are not only educational policies and accrediation but also the quality of lecturer and students, culturel and technical infrastructure, the quality of research projects developed by the universities. When it is considered in globalisation progress, Computer technology effects programmes, politics, accrediation of this educational system entirely. There are some projects to use computer technology as a more helpful educational tool in the leader western universities esspecially in USA. These universities put a network for this aim. They are also developing educational projects together. Technology provides the developing quality of educational policies into the globalisation.

Computer Aided Education began in 1980's. At the beginning of 1990's, entegration of videos, CD-ROM and computer technology are rises the quality of education and teaching conditions. (Koksoy,1997) The main advantage of the technology is being interactive and using multimedia instead of passive education. The advantages of using the technology effects the proffesional quality of education in a way not only the quality of educators and students but also motivating students, an effective audio-visual educational tool by considering the easy learning and teaching with this way and giving a direction to education. In architectural education, making computer aided visual analysis, computer modelling of created and existing environments to examine the design decisions, developing the professinal ability of earning the culturel haritages which are lost in cyberspace and esspecially using IT in education systems such as the western developed universities are important. Learning the experiences the computer aided education or some research projects on the same subject by means of internet from the developed universities is important to think IT as a part of advantages of globalisation. That system is an evidence that IT can use to teaching occupational education in an interactive way internationally.

MIT-Massachusetts Institute of Technology applicating IT to teach architectural education. (http://sap.mit.edu). DSOF-Design Studio of Future is establised recently. DSOF, StudioNet is a working prototype of a switched network of design studios and labs to simulate a networked engineering and design organization of the future. It will be used for a series of experiments with net-based learning and design collaboration DSOF StudioNet is a global Ethernet/T3-based inter network and an ISDN-based network for connecting different studios and labs centered at MIT, with links to external geographically distributed sites. The figure 3.1 shows the system(http://sap.mit.edu):

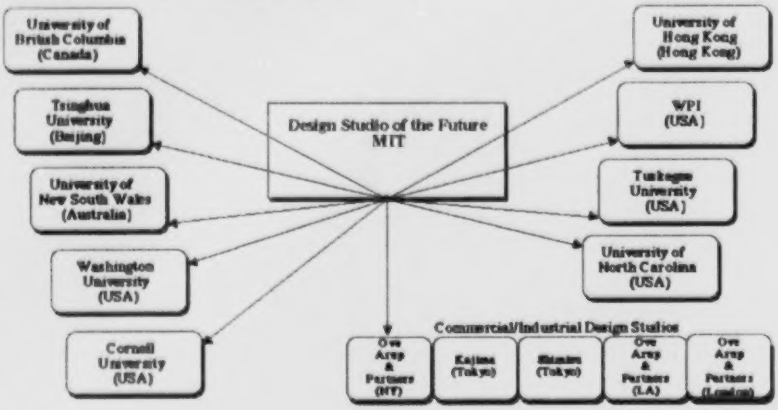
University of British Columbia (Canada)
University of Hong Kong (Hong Kong)
Tsinghua University (Beijing)
Design Studio of the Future MIT
WPI (USA)
University of New South Wales (Australia)
Tuskegee University (USA)
Washington University (USA)
University of North Carolina (USA)
Commercial/Industrial Design Studios
Cornell University (USA)
Ove Arup & Partners (NY)
Kajima (Tokyo)
Shimizu (Tokyo)
Ove Arup & Partners (LA)
Ove Arup & Partners (London)

Figure 3.1 StudioNet Network centered at MIT

412

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The prototype is called StudioNet at Design Studio of Future-DSOF. DFSOF faculty have offered several project-based classes in the past that require students to collaborate with designers and reviewers over internet. Currently, they are testing a broader range of collaboration tools in communicating with overseas studios to understand how these tools can improve the effectiveness of project-based classes. For example, the initial experiments will involve: Major industry-sponsored projects involving the entire process from design to final production conducted over the net as *Virtual Studio*; Expert reviewers will participate in major design reviews from geographically distant sites as *Virtual Design Review*; Students will periodically involve experts in certain specialty areas to critically evaluate work in progress as *Virtual Desk Crit* (http://sap.mit.edu).

It is clear that technology gives an important advantages for communication in order to eliminate the handicap from different cultures, different placeses, diffferent times in professional education. As a distance learning, sharing the libraries, attending the classes in different places, teaching courses by demostration for example animations, bit-mapped images plus displaying dias make the quality of education more effective. Therefore technology become an important tool in professional education to consider for accrediation. There is a very close relationship between the quality matter of education and computer technology and the ability of educators.

4.CONCLUSION

In order to process of globalization, to provide the continuity between the education and practice, art and philosophy in architectural education must be taken into consideration and the integration must be provided between the courses developing technical competence and the ones developing creative talent. However, for Turkey and the others the most important point which should not dissappointed is that the education institutions should stressed their original structure and genius by associated criterias.

Educational technology provide our country for reaching to lots of student community. Beside that, that is an important advantage for new universities which need educators. That knowledge transference from developed universities to developing universities which are national and international brings much better educational quality for our country and more equal opportunities for our students.

IT-Information Technology should be understood well and analyses all benefits to applicate into the education. That perceives in architectural education to make 'more visual education and to put interactive multimedia' for better quality.

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EXPERIENCES THROUGH QUALITY MANAGMENT AT BASKENT UNIVERSITY-VOCATIONAL SCHOOL OF TECHNOLOGY

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ABSTRACT

Baskent University has accepted the quality as its philosophy. With support and contributions of the staff and the students, Baskent University has been awarded ISO 9001 quality certificate. Quality has been the priority at The Vocational School of Technology since it was founded in 1994. Efforts to get ISO 9001 has resulted in a good coordination in our quality practices. Receiving ISO-9001 certificate doesn't mean an end to our quality practices. Quality can be kept with only uninterrupted efforts for improvement. Developing ideas and making improvements as deficiencies and faults are identified, and re-controlling are basics of our quality system. All the documents (procedures, forms, charts, and instructions) are renewed as the needs and expectations change. For the time being, there are six procedures, four forms, three instructions, and three inventory tables actively used in our school. Beside them, our quality record notes system enables us to check how well our quality system works, to identify problems and to make efforts for improvement.

1. GENERAL STRUCTURE OF OUR QUALITY SYSTEM

Quality is kind of the service or product that satisfies the customer. Universities and other higher education institutions are doors to national development and being an active country in the world. To realise their missions, universities should develop their own quality philosophy.

Since quality philosophy must rely on customer satisfaction, the first thing to do is to define the customer. The customer of a university is not only students. Our definition of customer embraces;

- the students,
- parents of the students,
- employers of the graduates, and
- the whole society we are living in.

Our aim is to have graduates with skills which are competitive not only in Turkiye but abroad too. We have developed good relations with the employers (and prospective employers) of our graduates. These relations enable us to identify the needs and expectations of them and to make any necessary changes in our programs and to train our students accordingly. These studies and efforts are expected to result in customer satisfaction. The next step in establishing a quality system is to determine quality policy, quality aims and quality strategy.

Quality strategy includes uninterrupted control, identification of problems and corrective actions. Results of these corrective actions are controlled again, Consistencies of the results with the aims can be improved as new needs and expectations arise. Fig.1 shows philosophy of our approach:

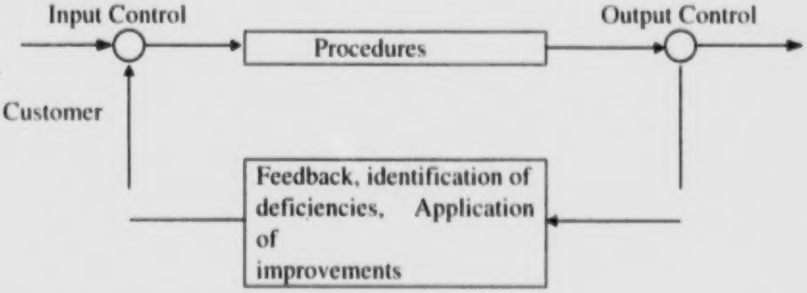
Input Control
Output Control
Procedures
Customer
Feedback, identification of deficiencies, Application of improvements

Fig.1. Our approach to quality system

2. APPLICATION OF QUALITY SYSTEM AT BASKENT UNIVERSITY-VOCATIONAL SCHOOL OF TECHNOLOGY

Quality policy, quality aims and quality strategy of Baskent University has been determined. Aim of Baskent University - Vocational School of Technology is, in agreement with both Baskent University Quality Policy and Aims ,and the changing needs of the society and the age, to train technicians who are

- informed
- skilled
- qualified
- ready to take initiative.

As part of the quality practices, organisation chart of the school was prepared, and duties of each member of the school have been determined in consistency with the school's aims. Hence, tasks to be realised by every member of the school are stated clearly.

There are six procedures in active use at our school. Each procedure has its own forms, charts and instructions that make the practice of each procedure easier and well organised. The contents of these procedures and the related documents are given on Table -1.

Considering the fact that an important step for quality in education is to select good teaching staff and supporting personnel, We established procedures for academic, administrative and technical services. These three procedures contains information about how people are selected for academic, administrative and technical positions, and contents and types of conducted exams and interviews. Each new employee has a one-month trial period. The employee will be evaluated at the end of this period again. Administrative and technical staff are evaluated using "Administrative and technical personnel evaluation form"s towards the end of each contract term. Academic personnel are evaluated considering the work he has done and the forms "Course and Instructor Evaluation Form"s which are filled by the students. It contains 29 questions by which the students evaluate themselves, their instructors and the course in general.

Table -1 Procedures and related documents used at Baskent Vocational School of Technology

PROCEDURE	FORMS	INSTRUCTIONS	TABLES
Academic Service Procedure	-Contract -Course and Instructor Evaluation Form		
Technical Service Procedure	-Technical Service Evaluation Form		
Administrative Service Procedure	-Administrative and Technical Personnel Evaluation Form		
Course Conductance Procedure	-Course and Instructor Evaluation Form -Course Conductance Evaluation Form	-Course file preparation instruction	
Curriculum Development Procedure	-Course and Instructor Evaluation Form -Curriculum		
Lab Application Procedure		-Lab preparation instruction -Lab use instruction	-Lab Inventory table -Lab maintenance & troubleshooting table -Lab record table

The other three procedures are related to education at the school. With the "Curriculm Development Procedure", instructor of each course prepares a report to evaluate the performance of that course at the end of each semester. To contribute to the development of the course in the coming years, each instructor is expected to observe new developments in his area, and be familiar with the new books and journals, curriculms at other universities, sources in internet etc. He or she should also consider the student evaluations in "Course and Instructor Evaluation Form" s and make explanations and modifications whenever necessary. Administration of the school will make changes which seem suitable based on these reports. Hence, the curriculums are modified according to the innovations and developments in these fields.

Each course and all practices related to it are organised according to "The Course Conductance Procedure". In the scope of this procedure, the instructor writes the school administration the needs related to the course, problems if there is any and his or her suggested solutions by filling " The Course Conductance Form" . By this way, problems are tried to be identified and solutions are sought quickly. The Course Conductance procedure also requires each instructor to prepare a file for each course he or she taught. This file is prepared in accordance with the "Course File Preparation Instruction". This file contains information like name of the course, its credit hours, number of class and lab hours, contents of the course, aims, topics, exams, projects, experiment headings, evaluation method, related sources etc. It also contains a weekly report of the instructor on conductance of the course and exam questions, answers, exam results, homeworks, experiments and projects. The Course File helps the instructor to control himself or herself and improves the instructor's performance considerably. The file is also a very useful source for the instructor that will teach the same course one year later. Good documentation is at the same time a good self-evaluation. Another advantage of these files is that the school administration can follow the conductance the courses, positive and negative points related to the course. This is especially useful for observation of performance of part time instructors.

Lab works are kept under control by usage of "The Lab Application Procedure" . Technicians at the school are responsible in effective application of this procedure. Tables of lab inventory, repair, maintenance and related records helps our technicians to do their jobs effectively and in a very organised way. Recording everything done has fastened all works and increased efficiency.

Loss of any equipment is very unlikely with the use of this procedure. "Lab Preparation Instruction" contains all steps to be executed by the technicians before, during and after lab application hours. "Lab Use Instruction"s posted on lab walls inform students on the important points about use of laboratories. Charging students with duties help feel themselves feel like part of the system.

RESULTS AND CONCLUSIONS

Recently a survey was conducted among the school's academic, administrative and technical staff about the contributions of the quality system, the following list is a summary of ideas of the staff at the school.

1. The system fastens production, communication and application of new ideas. It strengthens communication and coordination in all works and causes a better sense of teamwork among the members. Procedures help new employees to get used to their works quickly.

2. All academic, administrative and technical personnel are very much interested in the quality system and are very active in making their contributions for the success of the system, and hence the school. As all works are done in a very systematic way, a missing in any procedure is very unlikely.

3. Student Satisfaction has been better. Our students has very well received and appreciated our efforts for quality. They know that they are considered as customers, i.e., people whom we can not afford to miss. This seems to increase the demand to our school. University's being awarded ISO-9001 quality certificate will help our graduates to find better jobs.

4.The system helps us find long term solutions to the problems encountered. The system contains diagnoses and therapy of the problems quickly. Recording of problems on quality forms and quality records make it a must for the school administration to find effective solutions and to make long term investment for equipment, labs facilities etc.

5.Organization and efficiency of the courses has been better. Application of the procedures has made the course environment better. Review of the curriculum at the end of each semester, course files, organisation of labs have resulted in a better organisation and efficiency.

6.Efficiency in lab works has increased. Fewer problems have arised. Lab equipments are used more systematically and efficently.

THE IMPROVEMENT OF QUALITY OF EDUCATION IN TECHNICAL TRAINING COLLEGES AND THE EFFECTS OF TECHNOLOGY

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ABSTRACT

At the threshold of the 21st century, we see that countries find themselves in a competition of information and technology and that they have taken a long distance on the way of becoming communities of knowledge. In line with the added to the importance of the need for education " Globalisation ", " re-construction " and " integration with the world " are among concepts which are used to describe especially post-industry information societies.

The fact that information gains importance adds to the responsibilities of the whole educational organisation from the sources where information is produced to the structure, operation, administration and programs of educational institutions. Educational organisations must lead to the modernisation of the society because educational organisations have the chance to have influence on other systems by the way they lead.

1. introduction

It is a fact that in the developing world, the education system should meet the new demands of technology, economy and the structural changes and it should assist to these processes.

Today the innovations in the communication and transportation areas accelerate the international rivalry. For the reason of the global developments, the technical training colleges should give its students the ability of rivalry skill and the necessary knowledge.

Today the world is in a process of rapid change and development. The main force of the change is the industrial technology which is changing every day related to knowledge (TÜBİTAK, 1990, s.91). Human, education and technology are in a harmony today.

In the 21st century, the professional human source will be the main rivalry reason for the companies (MESS, 1997, s.1). The most significant features of the companies which are not effected from these rapid changes is that they have the high quality workforce.

In today's world, there is a very close relation between the success in education and the increase in economy (The Economist, 1997, s.15). The main condition of development for the developing countries is that they have to give more importance to the quality of education and to educate skilful personnel for the industry.

Knowledge is one of the important values in the developing world. Steam machines are the engines of industrial society and the computers are the main devices of knowledge and technology. New computer technologies are developed to use, store and create new information (Balkır, 1992, s.295).

Technology is the mass of knowledge that changes raw materials, energy and information into goods and it serves to people. Technology and educated human forces are the two main production factors (Kozlu, 1996, s.248).

Today, the knowledge is the biggest force. The countries that produces technology and knowledge do not give these two elements to others before they join the cost of knowledge that has an economic value. For this reason, the investment on the education is the most expensive investment (Drucker,Ç:Üçcan,1996).

2. THE INNOVATIONS OF THE KNOWLEDGE PERIOD

The developments in the communication technologies not only make the knowledge transfer quicker and simpler for industrial production but also it increases the effectiveness and efficiency of production. For this reason, the companies management systems are changed, too the developments.

The use of robots in industry are become widely-known by micro-electronic and computer technologies. All these developments are also effected the mechanic technologies used in industry (Erkan, 1997, s.248).

With the innovations in technology, new materials (plastics, ceramics), new processing methods (Computer Numerical Control CNC, Computer Aided Design and Computer Aided Manufacturing CAD/CAM) and new jobs are appeared, too.

Some qualities of workforce have changed in the period of knowledge if we compare it with the past. The qualities that are wanted in the workforce of producing goods and services are increased the level of skill and responsibility. It is important to give a necessary education. These determine the human force profile:

- To be in a harmony with the technological developments and the changes and always renew yourself.
- To have good relation with others
- To join the group works
- To take responsibility and risks
- Not only must one have the job qualifications but also the knowledge of socials subjects

The developments in communication technology caused some changes in the methods, technics, principles and the sources of education. The main target of Technical Training College is to create a high performance workforce (Standard, 1996, s.64). The industry of future is needed qualified workforce (The Economist, 1997, s.15).

3. THE EFFECTS OF TECHNOLOGIC DEVELOPMENTS TO THE QUALITY OF TECHNICAL TRAINING COLLEGES EDUCATION

- The machines and devices used in workshops and laboratories must be developed and renewed according to new technologies.
- Use the computer technologies for the new product signs and its manufacture (CAD/CAM, CNC) to search the new production methods and to teach its usage, to use the new technologies about the production design.
- By using the communication technologies, teaching to the knowledge
- The development in educational devices (TV, Video, Computer, Overhead Project, CD-ROM)
- The developments in education technologies (Internet, Tele-Conference, Simulation)
- Determining the standards of job
- Changed in the management system
- Improving the opportunity of using libraries and the sources

4. The factors that effects the QUALITY in technical training colleges

- The quality of the students and the teachers
- The quality of technical equipments and the physical environments
- The management system
- Finance
- The capacity of social-cultural academic activities

What can be done to improve the quality of education in technical training colleges? First of all, we have to define the word quality: the property of a product qualification that reacts to the customer needs at the present or future. According to this definition, the customer determines the dimensions of quality (Öztürk, 1996, s.66).

The quality in Technical Training Colleges is that to educate the technician for the needs of industry. The present or the new knowledge that is used in industry should be easily used by these people. The success of technical training colleges is correlated with the qualifications that is gained with the help education and the qualification that the job required.

5. SUGGESTIONS

- Duty, authority and the responsibilities should be determined.
- The problems of titles should be solved.
- The standards of job should be determined.
- It should be given importance the system of certificate
- Industry should be participate to all steps of education training
- The system of education should be changed according to the changes at work also the possibilities of finance should be provided
- Seminars should be held
- The physical quality of education properties should be developed
- The changing education methods should be followed
- There should be information offices or foundations that is made up off representatives of industry
- To form a database and have to cooperate with other colleges
- Technical Training Colleges should be financed by the companies
- The personnel of education should be used in industry as on advisor
- Have to make necessary changes in the curriculum of colleges that is available for the expectations of industry
- The teachers should be encouraged to make researches
- The quality systems that are used by the companies should be also used in education
- The students should make practices in industry
- The graduates of technical colleges should be followed by a central system

6. RESULT

Knowledge is the main factor of production in today's world. The companies that are using the technology which is created by knowledge on the companies which have the personnel using the technology should stay forever in the global world. If the technical training colleges are interested more closely to the developments of technology and they develop suitable education programmes and methods than they should easily graduate the personnel that is looked for the companies.

The developed societies are called the society of knowledge. For this reason it is necessary to educate a human who knows the universal values, works and uses the technology in useful way for the knowledge society. Education is the most important factor in becoming developed society. As a Technical Training College, we have to go forward become a developed society by using the knowledge and technology.

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COMPETENCE AND QUALITY ASSURANCE OF EDUCATION IN VOCATIONAL COLLEGES

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ABSTRACT

Attaining competence and quality is undoubtedly one of the overall objectives of education at every level and in vocational colleges likewise. The need for intermediate vocational staff has been provided by Vocational Colleges of which the number of graduates is increasing every year. It is expected that these colleges' graduates will have a dynamic contribution to the developing process of the economy. Thus, every graduate of Vocational Colleges, by the means of their education , should be professionally competent to the expectations of the contemporary human resources market. Moreover, by the grace of their knowledge, convenience and practising experience, they should also have quality assurances which are enough to be regarded as a capability of potential human resources in the future.
This article aims to determine by which means competence and quality assurance can be attained in Vocational Colleges together with an efficient education.

To serve this aim, a questionnaire was prepared in order to allow Vocational Colleges' graduates to state : how they had preferred to complete their education in Vocational Colleges and at which department

of these colleges, how they had used the opportunities and facilities offered, their prestige as a Vocational College graduate, whether they had noticed any lack of infrastructure and their suggestions related to the efficiency in Vocational Colleges. This questionnaire was asked to be filled in by a group of a sufficient number of graduates from various Vocational Colleges and the results were evaluated.

1. INTRODUCTION

Intermediate Vocational staff is one of the most effective factors which accelerate the development process of developing counties economics. The need for this sort of human resource has been provided by vocational colleges of which the number increase every year. Intermediate vocational staff, while they are realising the strategic decisions of the top level management both in production and service sectors, are the economic factors which have the closets role of practise to output. In Turkey, the number of vocational colleges is 384 by the year 1998. This amount has a positively increasing trend in order to serve the aim of supplementing opportunities of education for the youth forming the majority of our population. The increase of the number of Vocational Colleges and these colleges' students should not slow down the process of attaining assurance at the end of education, Turkish standard (TS), International Standardisation organisation (ISO) 9000-1: 1997, ISO 8402: 1994 defines quality as a product's total characteristics of satisfying the needs which are still exiting on will (possibly) exist. The same standard explains quality assurance as the total of planned activities which are needed to ensure that a product will be at the predetermined quality. In vocational Colleges, educational quality standard is to have graduates being efficient enough for a dynamic contribution to the development process of the economy, competent enough for the needs of production and service sectors and having quality assurances providing both of these after their education process.

2. OBJECTIVE OF THE RESEARCH

This research aims to determine by which means competence and quality assurance can be attained in vocational colleges together with an efficient education.

3. METHODOLOGY AND SCOPE

A questionnaire was prepared in order to allow vocational colleges' graduates to state : how they had preferred this kind of higher education and their departments in these colleges, how they had used the opportunities offered, their prestige as a vocational college graduate, the lack of infrastructure they had noticed during their education and their suggestions related to the efficiency of these vocational colleges. This questionnaire which consist of 45 questions was asked to be filled in by a group of 114 randomly selected graduates from 49 different vocational colleges in Turkey and the results were evaluated.

4. FINDINGS

50.6 % of the graduates were from vocational high school while the rest were high school graduates out of 114 who answered the questionnaire. 30 % of them expressed that they graduated. Vocational Colleges of World Bank's Industrial Education Project. They are working 24.6 % in public, 52 .6 % in private sector, 0.09 % are managing their own business and 22.71 % remains still unemployed 68 % of the graduates have jobs related with their departments in vocational colleges, 28.95 % had aimed to be a vocational college student before the university entrance exam, 61.5 % mentioned that they had been conscious while selecting, their vocational colleges and their departments, 65.5 % believe that they had the basic abilities related to their profession up to some degree or a moderate are during their education vocational high school graduates noted that they had improved their knowledge et vocational colleges : 38 % by a low degree, 38.6 % by a moderate and 33.4 % by a high degree. Vocational high school graduates mentioned that they had improved their knowledge at vocational college 38% by a low degree, 38.6% by a moderate and 33.4% by a high degree. Graduates stated that they have been using the knowledge they gathered at vocational colleges, 14% very low, 16.6% low, 46.5% moderate and 24.6% at a high degree while resolving a professional problem at the workplace. Graduates are working as : 35% workers, 44% intermediate vocational staff, 10.3% managers and 9.7% business owners. 62.8% of the graduates deemed that they have important roles in production and service sectors. 63.2% professed that the vocational college they graduated had low and moderate prestige within its environment. The graduates disclosed that employers honoured their diplomas by 31.6%. 15.8% preferred to practise for a period before hiring. They claimed that they had the opportunities to improve their foreign language and computer operating knowledge at low levels by 50.8% and 54.4% respectively. 83.6% had hoped to be employed after graduation. 63.4% of the graduates could have their jobs in 3 months after they had started to apply for. They aren't satisfied with their jobs because of : inadequate job to their profession by 14.2% ; assured continuity of the job position by 12.4% ; insufficient salaries by 22.9% ;impossible career improvement by 22.8 ; uncomfortable workplace by 9% and uncertain job design by 24.8% . 21.9% claimed that there hadn't been any facilities for leisure and 44.7% of the remaining part had been offered less than three facilities for spare time activities. Though the existence of libraries in their vocational colleges , 69.8% noted that they could not use these facilities efficiently. 60.3% preferred to be educated at a vocational college where development process was concluded via international standards rather at a recently activated faculty. 70.4% stated the importance of volunteer lecturers from production and service sector, since they must have had competent experiences. Finally, 56.5% don't believe that they had a qualified education at the vocational colleges.

5. EVALUATION AND RECOMMENDATIONS

Competence and quality assurance can be achieved with the existing quality or the quality will be compiled. Workplaces demand graduates who are : ambitious enough to cope with any possible conditions, diligent, serious, entrepreneur, accountable for their responsibilities, researchers, adequate players of team work, standardised with their basic professional abilities, skilled, interested in communications, creative and competent to the recent technology. Students, parents, employers and the country as a whole are the outsider customers of higher education. The most important of these customers are definitely the students. Quality in higher education is improving thoroughly the systems where the students shall develop their social, psychological, scientific and ethical values for the time being and in the future. Total quality in higher education can be defined as the total of activities performed to educate individuals having the most efficient contribution both on individuals' and the countries' the development levels continuously. Well-operated facilities; the help of parents, businesses and local associations; abundance of resources;

practise of recent technology; powerful and ambitious leadership of both the administration and the lecturers; prudence and interest on students and well-balanced education programs as theory and practise are meant to be the resources of quality in education. Vocational high school graduates disclosed that they deserve, in vocational colleges, having a level of infra-structure at professional facilities at least similar to those they had been offered in high school. As a result of our research, 60.3% of the graduates preferred to be educated at a vocational college which has: a quality standard, a contemporary organisational capacity, a concluded development via international standards and an institutional structure rather at recently activated faculty. Therefore, the quality that deserves the students' selection and the quality assurances that advance the continuity of this quality should be considered prudently. It is possible, by the grace of Total Quality Management, to cover the expectations for quality in education efficiently once, every time and on time by giving importance on the individual and team work. To serve the overall objective of Total Quality Management in vocational colleges :

1. These colleges also deserve a helping movement similar to the campaign of eight year primary education in Turkey. Thus, a new monetary fund for these colleges may be utilised.
2. The problem of lacking infra-structure should be eliminated.
3. Directors of vocational colleges should be educated on Total Quality Management in education by a unit which will be organised by The Council of Higher Education.
4. The permanent staff of lecturers should be rearranged for each department and its students. The administration should be controlled while utilising the permanent roll.
5. Directors should be provided with assurances which enable them to have the lecturers and the official staff work dynamically.
6. The prestige of vocational colleges should be increased. By production and the service sectors, they should be honoured and granted economically.
7. Rearrangements which will put the administration in a dynamic order should be made on regulation. Every lecturer should be able to be assigned as the head of department and more than two vice-principals could be assigned at vocational colleges having a great number of students.

8. New facilities for leisure time activities should be offered to the students of vocational colleges which are located especially in towns.
9. Computer operating and foreign language education should have the highest importance and concentration in order to have graduates be competent to the international standards.
10. Practising Total Quality Management in education, quality should be a standard in present vocational colleges and instead of having new but lacking quality vocational colleges, the capacity of the present ones should be increased together with the quality standard.
11. The job positions which are convenient to the definitions of intermediate vocational staff and technicians should be stated in the organisations of both public and private sectors.
12. The activities which will increase the prestige of vocational colleges within the environment such as : presentation, co-operation with both production and service sectors, controlling the graduates' professional improvement in the workplace by their college, should be executed systematically and in accordance with already made strategic decisions.

By executing planned activities which will have the quality standard remain at the most effective and efficient predetermined level quality assurance should be accomplished. Achieving quality once is having it forever.

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CREATIVITY AND DESIGN FROM THE ASPECT OF INTERNATIONAL QUALITY IN PROFESSIONAL AND TECHNICAL EDUCATION

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ABSTRACT

In order to reach quality in Professional and Technical Education, it is important to teach the individual how to cope with the difficulties how to adapt himself to new and complex situations and how to develop the thought in creative way, besides knowledge and capability. Such an education, for one hand develops the personality, on the other hand it gives sensitivity to the mental development of the individual who is the yield of creative education, it causes him to have the behaviours interrelated with the fineness of his work.

Applying creativity developing design education as the part of Professional and Technical Education is a big step taken in the way leading

1. The Importance of Creativity and Design in Professional and Technical Education:

Among all the professions and educations " Professional and Technical Education" has an important and an extensive place. This extension and importance increases in variety of technique and the difference in definition.

- Technique, defined as the whole of methods inclined to producing and evaluated as a result of knowledge, is applied to Professional and Technical Education programmes. Technique which is always under development, forces to learn new methods and skills special for itself.

434

The student must be in such a succeeding educational system in which he learns to think in a flexible way for reconciling the old knowledge, to adapt, to establish associations for similar situations.

- Technique, that is the ability that an individual shows in daily life or in applying a branch of art or craft, is in one respect defined as a result of a work or an action repeated constantly. In this situation a position, the opposite of a creative thought or a behaviour, is explained. This is just like riding a bicycle and balancing without knowing the laws of physics which the bicycle mechanism works with. An elastic behaviour, yield of the creative thought and a solution resistance are needed for applying the skills when an unexpected situation obstructs the flow of ability and being capable of finding solution proposal, after adapting himself to the situation with problems that are faced with , immediately.

-When the aspects of all the methods and dexterities of technical action are dealt with and framed with "Integrated Education Programme" (Arioglu,1997) whether the kind of the branch does not matter, it is necessary to apply all the subtleties of the work that has been learned and to care integrating these applications with the behaviours of the children. Here, again educating the individual as a sensitive individual who reconciles his profession -loving behaviours with the fineness of the work , has great importance while he is educated as a qualified profession person.

This century, just the beginning of 21st century, is a century in which globalisation, science, technic, communication have great importance, further more the start of " the thought century" (Bono,1997) announcement takes place in newspapers. In such a century, in every area of production and service, national or international quality can be reached not only with the basic knowledge or proffesional knowledge but with an education that brings the human resources' thoughts and creative powers into action. So according to this Professional and Technical Education must intend an education that teaches designing in general and specific areas, develops the creative thoughts and behaviours of the students besides educating them for professional knowledge and skills.

2.The Definition of Quality in Professional and Technical Education:

The future of a society, takes shape with the ideas of the working individuals there, their working productivities, their tries to realize their expectations. In this development the role of the professions cannot be denied. Profession is not only an action that the individual do for living. It involves all the life. Profession has the role of an important device through the connection of the individual with the society. The individual feels secure in society as long as he is in a successful and respected situation because of his profession. Profession which generally involves the one third of life, is a very important part when considering goals that are aimed to be reached.

Although, all the individuals' life is not profession, finding a situation where he can integrate with his profession freely, where he can work in happiness without thinking his job as a burden, has a great importance. An ideal profession situation will start within the level of education. Individual must be educated by a programme that has the quality of helping him to understand the borders of his talents and developing them during the education level. The comprehension of quality here can be evaluated with two points of views.

2.1. The quality of education in the direction of the place of the in society, the place special to its working area and expectations:

It aims to give all the knowledge, skill and behaviours necessary for the profession in the best way. Here, the point of view of Ridvan Bozkurt, specialist in counselling part of National Productivity Center (MPM), towards " The Total Quality in Education" and the goals that are defined for quality and the desicion to apply them to education belonging to Prof. Dr. Nukhet Yetis, the dean of Engineering Faculty of Marmara University (MU) are fairly developed examples.

R. Bozkurt already sees institutions of educations as business centers and defines the students as the clients of these centers. Thus education reaches to a client-centered that is student-centered situation. Such a development consists of student's motivations, interactive relations, productivity of education in preparation, application and evaluation stages, presenting knowledge and experience which are modern, always renewed for the future, applying total participation by team work, developing the individual's responsibility in the group, examining the organizational and educational processes, analyzing them systematically.

Ten properties wanted for an engineer which Prof. Dr. N. Yetiş brings out by supporting to industrial institution's competents' point of views and experiences and plans to transfer to education programs, are as follows:

-Talent of communication -Talent of leadership -
Technical knowledge
-Enterprise(talent of initiatives and creative newness) -
Personality
-Management skills -Using softwares -
Managerial sciences
-Talent of application (Bozkurt,1997)

As a result of all these knowledge and developments,quality in education is, first of all, to be trained and to train concerned with attribute.

2.2. It is the quality of education by which the individual will know the limits of his talents and develop them.

Quality from this point of view is ;
-The capability of assimilating the knowledge that is acquired
-The capability of transfering the acquired knowledge into the application area
-Elasticity of adaptation to changes and innovations
-Effort for being perfect
-The capability of using time efficiently
-Being able to think that it can be productive with less material and work.
-Being able to cross-examine what is learned and done

All these talents, capabilities and behaviour types brought by the quality of the education dealing with the characteristic, can be part of the education in creativity and designing in their own areas.

3. Defiinition of Creativity, Design and Their Place at Professional and Technical Education:

Total quality definition consists of will of change and newness other than lots of capabilities and characteristics whether it is applied to product and service producing big institutions or educational institutions. As in every level and area of the education, in Professional and Technical Education, training the teachers that will obtain the education of the qualified and creative human power, is first in importance.

Even from the simplest practical lesson, to the most conceptual and complex lessons which are hard, if the teacher is a creative person besides the knowledge about the subject that he will teach, he can adapt himself to every student's behaviour and situation in class and can find solutions for the problems immediately. He can teach the lesson in a more interesting way.

Why isn't creativity, a very important property of the precautions that the product and service producing institutions take in total quality and productivity subjects, dealt with much more importance and consciousness for every level of Professional and Technical Education and especially teacher educating institutions'programmes? This consciousness starts with knowing creativity and the important part of it "design" better.

3.1 What is Creativity?

Creativity that is accepted to exist more or less in every individual , is an inclination which helps him to know better to motivate, keeps him in searching and pushes him to achieve material, mental and emotional innovations.

Creativity occurs when the innate talent is processed fastidiously. With this talent the individual behaves in a more different way than normal or with unexpected answers shows a definite and specific function of knowing. Creativity has conceptual definitions that differ from each other as the result of scientists'and researchers' works. According to Guilford's researches that started in 1950s and continued to middle of 1960s and the works of many other researchers coming up today, it is grouped as a **creative product, creative process, creative personality, creative environment** in itself. All are examined in an independent and an interactive way.

Creativity researches include the properties of creative thought in priority. Guilford defined the properties of creative thought as, rationalism, elasticity and originality (Ulmann,1965) . Correll (1965) and Preiser (1976) added problem sensitivity, structuring anew,realizing and activating all the details.

Rationalism property is the talent of calling lots of ideas or assosiciations from memory. Ideas, bonds and fluency of expression can be considered.

Elasticity property is defined as adapting elasticity of an idea to a new situation, power of being able to adapt. At the same time it is defined as the talent of producing alternatives for every subject and idea suddenly or spontaneously. (like the usage areas of a brick)

Originality, is the talent of producing unusual ideas and solution suggestions. Here the unusual ideas are examined and differed from peculiar ones by the quality proper for the problem and the availability of solution suggested cleverly for the goal.

Problem Sensitivity, is the talent of perceiving the problem,being ready to analize, recognizing disharmonies and contrarinesses and being able to search for possiblities to correct them.

Structuring anew, is the talent which approximates creativity to design. Structuring anew aims to reach a new definition by changing all the existing parts of an object or an idea and combining them. This definition is sometimes brought out by the new connections of the thought.

Realizing talent, is the talent of transfering a sketch to a definite plan, product or work. It is th situation where the thought is visible.

Activating with all details is the extreme point of realizing. It can be stated as reaching the most ideal situations of the details. It is the talent of thinking in a very detailed way, making comparisons between the problem and the creative solution from all point of views and solving.

3.2 What is Design?

All these creative thought properties explained till here, are at essence of "design". Design that is synonymous to the Turkish words such as "tasarım", "tasavvur", "tahayyül" means preparing in mind, establishing, enlivening, order of idea, producing idea, imagining .It is a concept which can be used in every field.

In German it is briefly "entwurf" meaning scheme or " gestaltung" meaning giving a shape and within all these it is defined as "planning and preparing", "designing", "shaping" that take place in sequence. As the creative thought is formed during a sequence in the mind,there is a sequence of planning and shaping processes of design whether visualizing the thought in mind.

Why "design" must be taken to the scope of all primary schools'and other schools' programmes though it is the definite name of a department such as " Industrial Product Design"? The answer is that design can involve all the main creativity education. In developed countries they started to have lessons teaching how to think creatively and develop the behaviours in the name of "basic design". In our country ,for generalizing "basic design" in primary schools, the teachers must be prepared in the first place.

Other than this, it is important to have general design lessons for the first classes of Professional and Technical Schools and to have specific design lessons for the profession in the further classes. Also it is important to teach the students to create, to apply the techniques of problem solving directly and to think and to develop during the lessons. Because the design lessons,generally dealing with dailylife problems or specificly dealing with the solutions for the problems of the profession, prepare the student to develop their motivations, so above all they will learn to love their professions and to feel the will of developing themselves more.

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INFLUENCE OF THE VOCATIONAL GUIDANCE AND ADVISORY SERVICES ON CORRECT PROFESSION CHOICE AND QUALITY
AND A RESEARCH ON THE EDUCATION RELATED THEREWTIH

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ABSTRACT

There are talents, potentials, and hidden potencies of man, which he/she brings along with birth. It is the profession field that's providing opportunity for utilization and developing these owned talents. If the occupation, being also in a position of the most important means in meeting the physiological, psychological, and social necessities of man, is chosen by a correct and appropriate decision, it is possible to increase the levels of these necessities (Yeşilyaprak et. al. 1998).

Vocational choice is the act of the individual of making decisions based on evaluating labors with respect to various aspects, and heading towards the profession having the wishing aspects more than the undesired ones as to his/her necessities (Kuzgun, 1991). This decision that will be made by the individual is one of the most important ones during his/her life, and the development of a country is directly proportional with the country's man's preferences of occupations appropriate to his/herself.

The importance of the individual's profession choice and the education related to that, and the matter of helping people with respect to how and on which subjects to inform, has been emphasized by this study. Also directing individuals towards jobs conforming with talents and life conditions peculiar to his/herself, and the question of how and who is/are performing this, and helping students and individuals being in a position

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of profession choice, by showing the proper things related to that subject, has been aimed; and by the results obtained, some recommendations have been given.

1. INTRODUCTION

The development of computers, automation, and high-tech is an important element in determining the employees' future and industry (İTKİB, 1995). And the principal of this progession process, whose target should be the man's satisfaction, is the education that's training the man. Vocational education, in this context, is a developing process of the individual's talents, labor, as a means and with various respects, and an operation of making the individual acquire the required knowledge, talent, and labor habits, valid for the labor life.

The activities' total, based upon knowledges and skills acquired by a certain education whose rules are determined through the society, performed by the individual in order to survive, is called as an profession (Kuzgun, 1994), and the act of carrying out the vocational knowledge and talents, is named as labor. And the case of ideal profession is the labor choice conforming to the interests, skills, personalities, physical features, and wishes of the individual (Demirci, 1995).

Recognition of the man of his/herself, means, taking his/her phyisical, personal features, mental competences, interests, school success and times out of school, family status and family cv into consideration. In addition to these characteristics, the individual should keep in mind a lot of agents, such as biological, sociological, psychological or personal, economical, and political features influencing the occupation choices. There are also a lot of features concerned with occupations the individual should be awared of. These may be stated briefly as entrance conditions into occupation, qualities required from employees, employment possibilities, and future of professions. The individual, being already awared of these, comes to a position of decision by comparing his/her characteristics and the features the occupation requires.

Getting informed by various vocational advisory bureaus, in order to succeed in labor life, performing jobs with pleasure, being productive, or briefly saying, being satisfied, will be beneficial to the one with respect to correct profession choices. There are institutions like guidance and psychological advisory services, vocational and technological education developing projects, and Vocational Advisory Centers in order to make the individual be informed about this knowledge. The functionalities of these institutions play an important role on this subject.

2. MATERIAL AND METHOD

The datum obtained by the polls applied to 80 students and 27 guidance counselors in 8 elementary education schools in Ankara and the related sources constitute the material of this research. While the analysis of the findings are performed on the basis of the obtained datum, by the tables formed, the subject has been studied and discussed.

3. RESULTS OF RESEARCH AND DISCUSSION

3.1 Profession recognition conditions of students in profession choice and distribution of the obtained information sources

The findings connected with the profession recognition conditions of students in profession choice and with information sources obtained in profession recognition are presented in Table 1

Table 1. Profession recognition conditions of students in profession choice and distribution of the obtained information sources

Alternatives	Yes		Partly			No	TOTAL
Frequency	30		40			10	80
%	37,5		50			12,5	100
Alternatives	Guidance Counselor	Family	Vicinty	Press	Other	-	TOTAL
Frequency	4	17	28	8	13	-	70
%	5,7	24,2	40	11,4	18,5	-	100

By examining the table 1, it is seen that 37,5% of students have some idea about professions in profession preference, 50% have partial knowledge, and 12,5% have no knowledge at all connected with the whole. And then, when the sources of information, where the students are informed about professions (30% group) and the students having informed partly (50% group) about professions are studied, it has been seen that these sources are arisen from guidance counselors by 5,7%, from families by 24,2%, from vicinties by 40%, from press by 11,4%, and from others by 18,5%. It is understood from table 1, that the students are mostly partly informed about profession choices, and that the family bears the role in providing the information sources.

3.2 Recognition conditions of students of Education Institutions of Profession Choices

The findings connected with the recognition conditions of students of Education Institutions of Profession Choices are presented in Table 2.

Table 2. Recognition conditions of students of Education Institutions of Profession Choices

ALTERNATIVES	Institutions available for obtaining information about profession choices			
	Computer Technique and Profession Information (consultation) Center		Developing of Professional and Technical Education (*Mesleki ve Teknik Eğitimi Geliştirme, METGE*)	
	Frequency	%	Frequency	%
Yes	30	37,5	9	11,25
No	50	62,5	71	88,75
TOTAL	80	100	80	100

By examining Table 2, it is understood that 62,5% of students do not know the Computer Technique and Profession Information (consultation) Center, and also 88,75% of them are not informed about the Developing of Professional and Technical Education (*Mesleki ve Teknik Eğitimi Geliştirme, METGE*) as institutions where they may be informed with respect to profession choice.

3.3 Applications and Activities of Guidance Counselors related with the Education of Profession Choice

The findings connected with the applications and activities of guidance counselors related with the education of profession choice are given in Table 3.

Table 3. Applications and Activities of Guidance Counselors related with the Education of Profession Choice

Alternatives	Methods applied in profession choice education						Activities performed in profession choice education					
	Invantory of interesets and talents	Invantory of professional tendencies	Criterion of academical personality concept	Kuder interest tests	Others	TOTAL	Visits arranged to working places	Distributing books and brochures introducing job	Information about professions	Conferences with professionals	Others	TOTAL
Frekans	13	8	9	4	5	27	6	23	21	5	1	27
%	33,3	20,5	23,07	10,25	12,8	100	10,7	41	37,5	8,92	1,78	100

By examining Table 3, it is understood that the guidance counselors apply mostly the "Invantory of interest and talent" by 33,3%, and that the mostly performed activity is the "distribution of books and brochures introducing jobs" by 41%, in profession choice education.

3.4 Opinions of Students and Guidance Counselors about the Adequacy of Profession Choice Education

The findings connected with the opinions of students and guidance counselors about the adequacy of profession choice education are presented in Table 4.

Table 4. Opinions of Students and Guidance Counselors about the Adequacy of Profession Choice Education

Alternatives	Determinations of Guidance Counselors		Determinations of Students	
	Frequency	%	Frequency	%
Yes	3	11,1	25	31,25
No	4	14,8	256	32,5
Partly	20	74	29	36,25
TOTAL	27	100	80	100

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By examining Table 4, it is understood that the guidance counselors' opinions regarding profession choice education correspond to 74%, meaning they accept the education condition partly adequate, and in parallel with that, the students opinions correspond to a ratio of 36,25%.

4. RESULTS AND RECOMMANDATIONS

The most importrant expected function of today's education is preparing the individuals for having jobs, which are proper with their interests and talents, and appropriate for them in developing theirselves. For that said function of education to be realized, the individuals should recognize their interests, talents, and characteristics, should be awared of the profession fields within the society, the fields where man-power is required, and should go towards to the occupation field that is most suiting his/her. Correct profession choices of individuals for theirselves, bears a great importance at this point. Thus, directing students and individuals towards occupation fields, covering societies' needs, according to their interests and talents, is a requirement in establishing a society having a healthy productive power. From that point of view, the profession choice education, and professional guidance and advisory services bear important duties and responsibilities in fulfilling that requirement. With the results obtained by the findings of the research, and when both of the guidance counselors and students are examined, some inadequacies are seen. By starting from the necessity of removing these inadequacies in that field, some below given recommandations have been specified:

- Importance have to be deemed to the professional guidance activites in secondary education institutions.
- Tests, aimed at developing young's personalities and making them recognize theirselves have to be applied during the secondary education level.
- The guidance counselors and families have to be in touch about profession choice, and thereby informing each other about the student.
- Importance have to be deemed at the occupational knowledge courses aimed at revealing student's professional talents aand tendencies during the eight year lasting obligatory education schedules.

- The activities in order to introduce professions and professional fields at schools have to be developed.
- Programes have to be prepared in order to introduce professions by representatives invited from various occupational institutions.
- The students have to be informed about the Professional Guidance and Advisory Centers and about how to reach these institutions.

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METGE
(VOCATIONAL AND TECHNICAL EDUCATION DEVELOPMENT) PROJECT

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ABSTRACT

Technological developments into the business life, to continue rapidly, and however the new workforce needs and qualifications of them change constantly. Increasing the power for production and competition internationally, the new high-performans workers must be able to understand and use technological applications, to adapt rapidly to changing condi-tions, to problem solve, to communicate effectively, to work in terms with different types of people, to take personal responsibility for the quality of product or service being produced, and have technical skills that can be adapted to rapidly changing conditions. Therefore, there are very important that the 7 th Five Years Development Plans (1996-2000) and 16 th Council of Education resolutions must be carried out.

However Ministry of National Education, General Directorate of Technical Education for Girls has launched at the METGE (Vocational and Technical Education) Project in April 1993, in order to create a modern structure for the vocational and technical education institutions in parallel with the industrial development. It was started in 7 schools in

7 cities selected as samples of the pilot study of the seven provinces. Today, this project is implemented in 33 cities and 57 schools by General Directorate. METGE Project is a system project which taken over the Research & Development Model as principal.

1. WHY METGE ?

Education is one of the main processes because of affective the future life of people directly and the effects of being social structure. Being developing country can be possible with using contemporary and new technologies into the education systems that organised well and consist of multi-alternatives.

The day we lived can be called as Information Age, Communication Age, High-Tech Age or Post-Industrial Age, but aim and conception are the same. Product and speed of information started to thinking in the same meaning with the development levels of countries.

Human resources in 21 th century, is accepted as the main factor of competition. Therefore, having product and competition power in parallel with changing business condition is depend on the high-performance workforce that they must be able to problem solve, adapt rapidly to changing conditions inevitably.

Turkey's population highly young and therefore the importance of the future strategies about education is getting bigger. Developments and new trends on global level are to make a sign the needs of changing, developing and growing into the Ministry of National Education. The current systems do not to cover the requirements of young and adults and their interest. Moreover vo-tech education does not to cover industrial and technological changing sufficiently as well. The reasons for this current stuation are following to below.

1. Schools can not adapt technological changing in sectors all of the subjects under discussion taken by Ministry of National Education (poor local participication).
2. The current heads of schools do not suppot by the system to be entrepreneur.
3. Graduates from the vo-tech institutions by the subjects under discussion called be adequate for the industrial needs (Weakness of school or industry relationship).

4. The programmes developing studies that have been implementing up to date, do not adequately consist of studies about the workforce market.
5. Weakness of formal and in-formal education relationship within the current framework of programme.
6. Lack of national skills standards, testing and certification system.

However Ministry of National Education, General Directorate of Technical Education for Girls has launched at the METGE (Vocational and Technical Education) Project in April 1993, in order to create a modern structure for the vocational and technical education institutions in parallel with the industrial development. It was started in 7 schools in 7 cities selected as samples of the pilot study of the seven provinces. Today, this project is implemented in 33 cities and 57 schools by General Directorate. METGE Project is a system project which taken over the Research & Development Model as principal.

2. AIMS of METGE PROJECT

- To develop a new school structure, which consider to educational needs at local needs, and training system.
- To establish participation in local level among the school and labour (School Advisory Boards, Vocational Advisory Boards, etc.)
- To develop modular programmes in a way to meet determined needs.
- To apply contemporary information technologies into education system.
- To develop skill teaching considering the standards followed in EC countries.
- To prepare learning materials such as modules, computer aided instructions-software.
- To prepare the students that they will be conscious about working life before choosing the occupational branch and having them entrepreneur vision.
- To create financial resources by selling the education, service and/or product.
- To increase the capacities of school (Whole year and all day).

3. ORGANISATIONAL FRAMEWORK of METGE PROJECT

The project foreseen that the problems of vo-tech education can be able to solve with co-operation between the central organisation of the Ministry of National Education project school and their environment (private/public sectors).

For this aim, following structural modification of the system has been put into force.However the responsibilities at the provincial and school levels are redefined. This new structure is being improved by testing.

At provincial level, it has been planning a unit, which is connected with Provincial Directorate of national Education, that it can be able to prepare educational plan about vo-tech, implement the studies about co-ordination, dissemination and evaluation (15 th council of education resolution number:71 " For effective vo-tech education, it will be taken a new framework as a base of new system that it can be able to provide close links between industry and schools for developing, evaluating and financing the vo-tech education".).

At school level, school and Vocational Advisory Boards that is consist of Industry Co-ordinator, Programme Co-ordinator and Vocation Guides, were established at the schools. These boards, identify the training requirements at local level, the curriculum development for these requirements, follow-up graduates and serve them abut counselling and guidance, inform the school about new technologies and and help them for using these technologies, co-ordinate and research to create new financial resources by selling education, Service and/or production.

Moreover Central Group has been organised for researching, co-ordinating, disseminating and evaluating the studies by General Directorate. Central Group has got five sub-groups, which are following below, and on-going their studies within the co-ordination.

- Need Assessment Group
- Curriculum Development Group
- Education Material Improvement Group
- Occupation Standards Group
- Bulletin Group

It must be admitted preparing some regulations in order to provide the transfer of some authority from the centre to the schools and local authorities. Therefore, in the METGE Project foreseen to form a self sufficient school structure which can be able to

- determine the needs of the industry,
- reflect these needs to the education programme immediately,
- provide the in-service education,
- develop the learning materials,
- create the new financial resources.

4. ON-GOING ACTIVITIES in METGE PROJECT

Teacher training is the one of the main items of the project. Teacher training services have been organising effectively and 8600 teachers trained in these in-service activities up to date.

Seventh Five Years Development Plans (1996-2000) has been foreseen that it will be taken a new framework as a base of new system that it can be able to provide close links between industry and schools for developing, evaluating and financing the vo-tech education for effective vo-tech education.

During the curriculum development researches, the different approaches used which are comes from Petty Trades and Artisans Association, Labour Placement Agency, KOSGEB (Small and Medium Industrial Organisations Development Chairmanship), UNICEF, Ministry of Tourism, Ministry of Culture, Universities, Union of Chambers and Exchanges; Managers of Industrial Organisations, professionals whose come from different sectors and teachers of pilot schools of METGE Project.

It has been determined the occupations, which has got workforce needs nationally, by pilot school's boards. It has been followed activities at below in the curriculum development studies.

- To determine the national and international occupation and identify them.
- To implement the studies about identifying the experts approach and improve their corporations.
- To develop testing methods and applying them in industry.
- To evaluate of results of tests and take form the curriculum framework by determining the exact tasks.
- To identify the core skills.

It has been intended a system approach, which is flexible and multi-alternative (particularly consider to local and individual differences), that it will be able to adapt to rapidly changing technologies and occupational standards and create the common base with the post- graduate vo-tech colleges.

The branches within the General Directorate have been revised and renovated by those ways. According to the new structure, Fashion Design, Art & Design Technologies, Child Development and Education, Hospitality & Food Technologies, Handicraft & Technologies, Ready-Made Clothing & Technologies, Tricot branches have been determined.

It has been prepared 23 programmes in formal education and also 52 programmes in in-formal education. These curriculum programmes have been presented to Board of Education in May 1998 and approved by them.

At the applying of the programmes, it has been based on individual learning methods. As far as known, individual learning methods are the most effective methods because of influence student's performance positively. At METGE Project, there are on-going studies for writing, printing and distributing of the 450 modules in 7 branches. It is also implementing the studies for assessment papers, teacher and student's handbooks.

The researches about the occupational standards that it based on developing the examination and certification system, on-going to scope of the Employment and Education project, which has been implementing within the co-ordination between Ministry of Labour and Labour Placement Agency, The exam of the occupational standards started to testing in the project's schools.

The new curriculum programmes apply 25 project's schools in 1997-1998 education year. However the planing of METGE Project until 2000 years, has been completed and started the applying.

SHAPING CURRICULA IN VOCATIONAL EDUCATION

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1 ABSTRACT

It is an unquestionable fact that vocational schools constitute a vital part in training potential employees for middle level technical or administrative positions. In shaping the curricula of vocational schools, collaboration with the industry is an essential point in specifying and adapting to requirements thereof, thus maintaining a dynamic curriculum oriented towards industrial applications.

In this collaboration the first aspect is to establish and maintain a successful relationship with the industry, and the second, to determine the extent to which the requirements of the industry should shape the curricula. The delicate balance between theoretical studies versus application - oriented courses sets the feasibility of curricula in vocational education.

In this paper, the means of establishing and maintaining a fruitful relationship with the industry will be discussed, followed by the methodology in maintaining the critical balance between fulfilling the requirements of industry, while offering a solid theoretical background in curricula pertaining to vocational education.

1 - INTRODUCTION

It is unquestionable that Vocational Schools form an important role in providing middle level human resources, thus fulfilling the requirements of the industry. The potential supply of human resources through vocational education has increased in significance during the recent years. The modern administrative and productivity policies of today focus on human resources as the primary input to industry, thus concentrating on chosing the right person for right the job, in order to increase productivity. Vocational schools are therefore, a vital source for these studies.

Feasibility in human resource management not only directs us towards the necessities of a sound vocational education, but also brings to light the importance of collaboration between vocational schools and the industry. In our study, we have approached the subject in two aspects: The first is the means of establishing a fruitful relationship with the industry. The other is the means of incorporating the requirements of the industry into the curricula of vocational schools.

2 - PROMOTING VOCATIONAL SCHOOLS

The business world has many different methods in maintaining an efficient and successful staff. Although these methods may be different, the aim is the same, that is, to choose the right person for right the job. For vocational schools, whose aim it is to fulfill the requirements of the industry at middle level technical and administrative positions, it is important to create the necessary level of awareness in the industry through promoting both their curricula and student profile. It is especially common in our country for the industry to employ graduates from a four year university program, and complain of the relatively high expectations of these graduates, meanwhile noting that these are overqualified for the job. The picture is therefore as follows: A vocational school aiming at training qualified future employees for the industry on the one hand, and the potential employers who do not posess adequate information on vocational education on the other.

It is therefore obvious that a greater collaboration with the industry in promoting vocational schools is necessary. Capturing and maintaining the interest of the industry with respect to vocational education can only be realized through an effective public relations program. For this, it is necessary to promote vocational schools and to create the necessary awareness within the industry.

Steps to be reccommended to this effect are as follows:

2.1. Avtivities pertaining to Schools:

- Maintaining curricula which will fulfill the needs of the industry,,
- Effectively preparing students for real life,
- Backing up theoretical subjects with practical applications,
- Using examples from the business world as case studies,
- Establishing a periodical flow of information from schools to the industry,
- Organizing joint conferences, seminars with the industry.

2.2. Activities pertaining to the industry:

- Cooperation with vocational schools regarding the employment of trainees,
- Contributing to lectures by means of speeches, seminars, etc.,
- Cooperating in establishing joint projects relevant to vocational education,
- Allowing field trips from vocational schools,
- Paving the way to applicational courses to be given on the business premises,
- Creating means of employment for graduates.

The motto for public relations should be COOPERATION. With both the business world and vocational schools undertaking to cooperate, this will ensure successful future employees. The benefit will be towards effective production.

3 - SHAPING THE CURRICULA

It is obvious that the efficiency of vocational education will be measured in terms of fulfilling the requirements of the business world. Therefore, a curriculum which has introduced to its graduates, a sufficiently strong background in topics they are expected to encounter in their worklife, is not only an asset to the school, but and asset to business and the national economy.

Collaboration with the şindustry, as has been outlined above, is a vital aspect in shaping the curricula in vocational schools. Persuing the requirements of the business world, keeping up with technological advances, will make it possible for a dynamiz curriculum to be established whereby graduates are equipped with the ability to easily adapt to their job.

The main difference between vocational schools and Faculties of universities, is that their curricula concentrates more on practical applications pertaining to the industry, rather than academic and theoretical subjects. However, a curriculum based solely by the requirements of the industry has the potential danger of producing graduates who have acquired a broad variety of industrial applications, but who lack the fundamental theory underlying these, and therefore, would find it difficult to adapt to topics new to them. On the other hand, a curriculum based more on theoretical concepts carries the potential of straying from vocational education towards becoming more "academic". It is, therefore, the delicate balance between theoretical studies versus application - oriented courses, which sets the feasibility of curricula in vocational education.

An effective curriculum, therefore, mus be designed in such a way that it introduces real life applications, meanwhile covering the theoretical background underlying these applications. I would like to introduce a few examples suppotive to the subject: In a vocational school for Computer Programming, for example, instead of attempting to teach all available programming languages, it would be more efficient to choose one of the most widely used languages, and concentrate on introducing all topics in the curriculum using this programming language as a tool, a graduate of this program, having aqcuired the fundamental background pertaining to computer programming in general, will easily be able to adapt to other programming languages if confronted with these. In a similar way, for a Computer Aided Accounting program, instead of attempting to introduce all accounting packages on the market, it is sufficient to choose one of these, and introduce the theory and details of the profession using this package for applications.

The duration of vocational higher education is two years in our country. Although two years, with an appropriate curriculum, is adequate for producing qualified intermediary employees, it is obvious that this time should be used with care. Graduates should possess a solid theoretical background, should be aqcuainted with industrial applications, and above all, should be open to self-development. Theoretical topics should definitely be supported by case studies from real life, and projects comprising such topics should be carried out frequently. As was suggested earlier, guest speakers from the business world should be invited to lecture frequently. Through this cooperation, not only do students gain a broader vision into business life, but it also ensures that the staff of the school are in close relation with industrial applications, and that the business world is in contact with the school, getting to know the program and the quality of the students.

COLLABORATION OF INDUSTRIAL AND EDUCATIONAL INSTITUTIONS:
MODEL OF ASELSAN

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SUMMARY

In order to take part and compete in the globalized world market, the production of technology and science within the country is necessary and the best way to ensure the renewing conditions in technology for the industrial and educational institutions to be in collaboration with each other. This article examines the relationship between the industrial and educational institutions and by taking Turkey into consideration we look at the role of industry in overcoming the deficiencies in the area. The most important sources of industry are human power, universities and training schools which are offered by ASELSAN by putting forward the collaboration between educational institutions and in order to estimate a customer's expectations and satisfaction for these institutions, the results of the applied questionnaires are presented.

Today, the fast development in science and technology has led to an increase in economical activeness and competition. In this globalizing, competitive condition, the only firms to stand on their feet are the ones who can produce high quality goods at reasonable prices and who are able to meet the customers' demands and needs. It is impossible to reach such a standard by transferring technology from abroad. This situation has brought education to become the most important economical source. The reason for this is that the quality of education given to the personnel is a factor which directly affects the industry. In order to reach the world's marketing standards in quality, a necessary condition is to employ highly qualified personnel. For such a condition to be made possible, the industry and educational institutions must continuously work hand in hand.

1. The Relationship between Universities and Industry in Turkey

The universities in Turkey have not developed according to the country's industrial needs but have been built on samples of western models and the syllabus has been made to fit within these models. Due to this reason, the developments taking place in the industry and universities of Turkey have not shown any parallelism. Since the two have not developed in parallel, the university-industry relationship has not shown any signs of improvement. The industry has not been able to specify and inform the universities of the human model it requires and the universities have not made any studies related to this, therefore the needs and criticisms of the industry have not been made clear.

The uncertainty in the politics of science-technology-industry, the limitations of technological transfers in the private sectors, the contentment of products directed to internal marketing, the ,insufficiency of support and motivation needed for basic studies and research at universities, etc. are all factors which prevent the relationships from being at the required standards.

To improve the university- industry relationships in Turkey, not only the two institutions but also the government must define its role within this frame and must also identify and accept long term politics in science-technology-industry and its goals.

2. The Role of Industry in Improving the Collaboration between the University and Industry

In order to fulfill the demands and needs of the community, the industry produces goods and during the process of marketing the goods, the universities activate knowledge and bring up individuals who can produce such knowledge for its own behalf and for the industry itself. The success of the relationship between the university and the industry lies in the fact that both sides bring together their aims, capacities and goals in the most convenient way possible.

The industry must offer to universities the opportunity to make use of its factories, the development of prototypes, the probation of students and the feedback for the selection of thesis topics. Amongst other activities required for the improvement of the relationship between the university and industry are: the transmission of knowledge and consultation, seminars and courses, funds for the university, financial support for the universities' faculties and laboratories and industrial scholarships.

The money and effort needed to carry out Research Development studies is so high that rather than making so many expenses, it would be more reasonable if both the university and industry combined their strengths and started working on technology production. By doing so, the Research Development studies which are up to university standards and which have not been activated by the private sector will have the opportunity to use the country's sources effectively and efficiently.

A good strategy which would help university graduates to adjust to the industrial sector would be to organize a program of seminars and meetings based on product development, working methods, marketing, etc. with the support of experienced personnel.

New graduates usually get into a panic about finding a job; they consider the first job offered to them and they start working in a field other than they have been specialized in, whereas the collaboration between the university and industry will prevent any loss of human strength and will help for all the struggles and efforts one has put into being what one is.

3. The Model Used by ASELSAN for Ensuring the Collaboration between the University and Industry

From its foundation onwards, ASELSAN has always aimed at technology production and in order to activate this aim, it has continued its collaboration with universities. The continual service offered by both sides has increased the effectiveness and in return this effectiveness has led to a better understanding of each other and as a result has given the opportunity for both sides to put forward their expectations and goals more clearly.

ASELSAN has used many models in ensuring its collaboration with universities. One of these consists of an apprenticeship mechanism which enables both sides to understand one another better. Through this mechanism, in an industrial atmosphere, the students are able to see in practice the theoretical knowledge they have obtained so far and also are able to consolidate their knowledge. The opportunity of practice offered to the university students who make up the industry's personnel source prevents any loss of time when beginning work.

Like the apprenticeship mechanism, the Temporary Technical Personnel has also been established in ASELSAN. During the academic year, in order for the students to observe the practical side of what they have studied and to be able to develop themselves, ASELSAN is offering a training period for third and fourth year students covering 1-3 hours a week which has been fitted in parallel to their courses.

ASELSAN views all investments on individuals not as money or loss of time but as investments made for the future. In order to be successful in all its studies, ASELSAN is aware that there is a need for highly educated personnel, therefore it continuously supports its personnel in attending the master and doctorate programs. With the aim of evaluating all thesis results in ASELSAN and having its personnel become experts in their area of study, ASELSAN chooses the master and doctorate topics which are applicable to its needs.

All institutions must continuously improve themselves in order to be successful under these competitive conditions. Education is an important factor which speeds up the improvement of activities. For a continual education to be provided and to up-date the personnel's knowledge, ASELSAN has sought help from the universities' expertise staff. It has also sought help from the universities' educational services for the follow up of the latest methodologies in administration.

Another model which is in use for the collaboration of the university and industry is the consulting mechanism. ASELSAN not only receives consultancy from the universities' personnel on necessary topics but also every now and then it is able to send its specialized personnel to be of benefit during some practical lessons at the university. Therefore, we see that this model is being applied in a reciprocal manner.

Today, for the improvement of extending these projects as well as having an effective progress and results, many universities and institutions specializing in the area have come to work together. In these projects, ASELSAN collaborates with the universities and acts as a research member by offering help to the extent and quality of the works being carried out in these projects.

With the collaboration between ASELSAN and the universities till this very day, ASELSAN has proven that in Turkey if the necessary sources are obtained, the collaboration between the industry and universities can make many things possible.

4. The Industry's Benefit from Training Schools and the ASELSAN Model

The aim of training schools is to bring up individuals of high quality and standards which is a requirement for the industry and also to prepare students for their professions according to their interests, abilities and talents. By bringing up technicians and other personnel of the required quality and standards will put the industry into a great competition and in return will give it great support. However, due to the fact that the education in these institutions is insufficient, the industry cannot make efficient use of the graduates of training schools. In order to bring up technicians and personnel of high quality and to evaluate carefully the technical part of education which is quite expensive, the industry and training schools should work together to strengthen their bond with one another and to find common solutions.

The students of training schools are able to put into practice the theoretical knowledge they have gained in an industrial atmosphere offered in ASELSAN which will enable them to consolidate the acquired knowledge. Today, ASELSAN accepts many students from various training schools to carry out their apprenticeships. Every year, approximately 250 training school students carry out their apprenticeship in ASELSAN and those who adjust to the factory conditions easily and who prove to be successful are evaluated carefully and are usually the ones to be employed for positions in the coming years. Training school students who make up the most important personnel source in the industrial sector must practice a lot and must observe and understand the cultural side of the industry which will make their adjustment to the industry easier.

ASELSAN has always tried to offer a variety of technical support to training schools. ASELSAN has donated many devices, tools, equipment, instruments, etc. which lay idle to training schools with the hope that the students at school will have the chance to be more acquainted with these devices which in return will have them adapt to their professions easier. The difficulties the students face in the industrial sector, the deficiencies in some of the studies, the precautions which can be taken related to the studies and the adaptation of students to the industry while they are still in school are all topics to be discussed with the training school staff. As a result, solutions will be sought for the ongoing problems and improvements will be made in accordance with the solutions.

5. The Quality of Education and the Expectations of Industry from the Educational Institutions as a Customer

Bringing up highly qualified individuals and offering help to the economy through qualified research are expected of the university and training schools. Educational institutions must present a sufficient amount of knowledge to the students in which the students will be able to make a maximum use of the knowledge acquired which in return will lead to the success of the industry. ASELSAN prepared and applied a questionnaire in order to estimate the satisfaction and expectations of the university and training school graduates. The administrative staff filled out the questionnaires to investigate the strong and weak points of the university and training school graduates. From the directors to the head technicians, a total of 72 administrators evaluated their personnel taking into consideration the school they graduated from which includes 68 university graduates and 51 training school graduates.

The results obtained from the questionnaire on university graduates show that the administrators are happy with the personnel's adjustment to new technology and their acquired technical knowledge. However, the areas of communication, self-judgement and decision-making as well as leadership show low signs of the administrators' satisfaction. The qualities which were included in the questionnaire were also ranked from the most important to the least important. The most important quality which is labour quality was shown to have a low satisfaction. A great difference can be noted between satisfaction and the qualities of concentrating on customer/quality, creativity and communication. (Table 1)

The results obtained from the questionnaire on training school graduates show that the administrators are mostly happy with the personnel's human relations and the ability to adjust to new circumstances. However, it can be seen that the rank of importance for the qualities of labour quality, the ability to carry out work, teamwork and concentrating on customer/quality are not in parallel with satisfaction.

It is obvious that as a customer, the industry's expectations of educational institutions are to bring up students suitable for the industry and to carry out its studies accordingly. As a result, the industry will use up less source for the adaptation of its new personnel and will receive more output thereby speeding up its activities.

6. Result

Within the industry's expectations, the most important factor in bringing up students suitable for the industry is for the industry and educational institutions to work together so that both sides can put forward their expectations quickly and reasonably.

To prevent the lack of knowledge seen in students, a syllabus suitable for the industry should be designed which will ease the students' adaptation to the industry. In order to make this possible, education programmers and the industrial institutions must collaborate with one another in designing a new syllabus.

Educational institutions must not only offer a sufficient amount of courses related to the students' chosen profession but must also dwell on the cultural and social aspects which are necessary to develop in various ways. The reason for this is that a person's success increases not only through the good level of technical knowledge he/she acquires but also by being a good decision-maker, establishing good relations and having the ability to solve problems. The aspects desired in a personnel by the industry are: seeing quality as being prior, having the ability to think creatively, having responsibility, showing effort and resolution while trying to reach ones aim, working as a member of a team and having the ability to use technology. If the above mentioned aspects are acquired during the school period, working life will be a lot easier.

The level of increase in education will lead to an increase in output and quality. For this to be successful, the educational organizations must be carried out together with the industry. In return, the level of increase in education will also increase the level of industrial competition.

Rank of Importance	QUESTIONS	Satisfaction	Range
1.	**Labour Quality:** Completing work, following up on given work, ability to fulfill quality standards	9	-8
2.	**Ability to do work:** Speed and effectiveness in carrying out work	5	-3
3.	**Adapting to new technology:** Using the proper tools and equipment, adapting to new conditions	1	+2
4.	**Creativity:** Using acquired knowledge, developing new plans, making new suggestions	8	-4
5.	**Concentrating on Customer/Quality:** Working according to customer's needs, seeing quality as being prior	10	-5
6.	**Teamwork:** Capability and effectiveness in teamwork	6	0
7.	**Technical knowledge:**	2	+3
8.	**Communication:** Expressing ideas and knowledge clearly, persuading in both written and oral form, listening	12	-3
9.	**Organizing ability:** Planning and applying all works effectively	11	-3
10.	**Human Relations:** Getting along well with colleagues, setting up dialogues in ease, being socially active	7	+3
11.	**Foreign Language Knowledge**	3	+8
12.	**Adaptation:** Adapting to working conditions , changing conditions, new administration and other works	4	+8
13.	**Self-judgement and decision making:** making positive decisions in topics related to work on his/her own, showing self-judging behavior	13	0
14.	**Leadership:** Directing, persuading and motivating colleagues	14	0

Table1: The evaluation of the questionnaire for university graduates

Rank of nportance	QUESTIONS	Satisfaction	Ra
1.	**Labour Quality**: Completing work, following up on give work, ability to fulfill quality standards	4	-
2.	**Ability to do work:** Speed and effectiveness in carrying out work	3	-
3.	**Teamwork:** Capability and effectiveness in teamwork	5	-
4.	**Concentrating on Customer/Quality:** Working according to customer's needs, seeing quality as being prior	6	-
5.	**Human Relations:** Getting along well with colleagues, setting up dialogues in case, being socially active	1	+
6.	**Adaptation:** Adapting to working conditions , changing conditions, new administration and other works	2	+
7.	**Technical knowledge:**	8	-
8.	**Adapting to new technology:** Using the proper tools and equipment, adapting to new conditions	7	+
9.	**Communication:** Expressing ideas and knowledge clearly, persuading in both written and oral form, listening	9	(

ible2: The evaluation of the questionnaire for torining school graduates

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CONTEMPORARY APPROACH TO ESTABLISH THE FRAMEWORK WITH COMMON BASE OF SECONDARY EDUCATION CURRICULUMS

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ABSTRACT

Education is the one of the main periods that affect the people's future and the social life. For being developed country , education services must be organized well planning, flexible and consist of multichoise for people.

Today, social-economic and cultural changes rapidly must be integrated to the daily life. Therefore, it can be possible next generations's harmony within the society by new strategies in education life

In this written statement, it's presented a new approach for the secondary education curriculums that consist of occupational groups and vocational standards that they consider to Turkey's educational needs.

THE QUALITIES EXPECTED FROM WORKFORCE ACCORDING TO INDUSTRY'S DEMANDS

In Turkey, qualified a high performanced workforce is needed in every area. For this reason, education should create new expertness areas and by educating humanpower in these areas it should support country's work-force source's and kind's development and also the incresement of employment . In high-performanced companies, which were appeared after industrialization, middle degree management staff is either completely removed or by decreasing the number of them, their work is given to general workers that are doing their job.

In providing increasing quality opinion and continuously rising production incresement, the think of individual's that they are not a worker of the system they are in but also they are important part of it is brought competencies of education system that it should provide to new workforce. New and high performanced workforce should have these qualities; understanding technological application and using them, to adapt different conditions quickly, to be able to solve problems, to establish effective communication, to be able to work with different people and the capacity of taking personnel responsibility for the quality of product.

There are two sides of knowledges and skills about how a work is done; competence and base. With the five competencies that is the base of work performance and three dimensioned scientific skill's forming the base of work performance, personnel qualities are determined. According to the report prepared by SCANS, with the five competencies and there dimensioned scientific skills, personal qualities are determined. These eight competencies are necessary for preparing students that are either attending a job directly or thinking a further education.

These competencies and bases should be thought by a method that shows the work place's conditions and completed with each other (Cord, p.11-15, PACKER, p. 28).

Basic skills are reading, writing, arithmetic, listening, speaking, thinking skills are creative thinking, solving problem, to see with the mind eye, to know how to learn, deciding and personnel qualities are responsibility, respect to oneself, social properties, management sources, relations between persons, gathering information and using them, understanding complex relations, working with different kinds of technologies.

THE QUALITIES THAT EDUCATION PROGRAMS SHOULD HAVE ACCORDING TO DEMANDS

Now, it becomes inevitable that the education programs should be formed by thinking all the persons in the organization. Determing the worker's education needs by seeing them as a complete in their working life and personal life, providing supports in the rank of program's development and appraising will increase the effectiveness of education studies. An another important point that determines the limits of education studies is keeping in mind the needs in future besides existing needs (ERDOĞMUŞ, p.302).

The expect from the education system is training of individuals with the knowledges and skills necessary for country improvement. But this case cause an education program only full of knowledges and a knowledge densed to only theorical formulas. But knowledge, without application, with only it's theorotical dimension, couldn't work an it's impossible to carry out it to life.

Even teaching of theorotical knowledge healthily is a controversial subject. Because, formulas in the secondary education programs are only a knowledge pile and the students aren't healthily integrated to theorical knowledge period with it's sources and histories (KALE, p. 787).

With the developments in the world and in Turkey, the main reason for establishing a new system is determined. These can be summarized as; employer's demands to have a flexible and well educated workforce having a wide based knowledge, determining basic skills necessary for workforce again, the need to make easy the change in the economy from the closed economy to free economy, the need to form prosession standards and certification system appropriate for free current price economy mechanism in supervising working life, the bringing of new standards in basic skills to agenda new needs for the improvement of working life and it's important courses for education, providing objective and impartial supervising possibility, the effectiveness of formal, widespread novicing and providing them work and the possibility of increasing output (Labor Placement Agency, p. 4-5).

In the new education model which will be designed according to the all datas; starting with the concepts "education all life" and "continuous education", by thinking the positive sides of professional and technical education and general education together, a flexible construction starting from accommon base, in which individuals have a possibility of progress according to multichoised individual speed and capacity, should be thought.

Common opinion widespread in all world is that it is different or the education associations to be at the same degree with the industrial foundations in the technological case and continuing this stuation. The focus of these common opinions is that it is possible to develop special technical skills of individuals and to teach wide based basic knowledge and skills in the secondary education degree. After the accepting of the idea that schools cannot catch the job world it is necessary to develop the skills of harmony and creativeness instead of professional skills.

A NEW APPROACH PROPOSITION FOR SECONDARY EDUCATION PROGRAMS

The most important program idea appeared in the last ten years is program development method that comprises systemathical method. It's base is composed of four elements (CORD, p.196).

1. The organization framework that is named as occupational groups that have a base formed to the councils in occupational areas.
2. The standards about the needs of student's total education (these standards are composed of needs directing towards the academically and professional improvement).
3. The appraising strategies that will be project that for considering the success propations of students completing curriculum
4. With the instruction strategies that will show the needs of most of the students, curriculum program planned based upon critical thinking, hand skills and conceptual bases.

When international current prices based upon state and economy is thought, determining profession standards brings professional education quality and flexibility of workforce and activitiy. Determining profession standards is use full to education system workers, employers, worker syndicates and job environment the ranks in developing profession standards are summarized below (DOĞAN, p.1997);

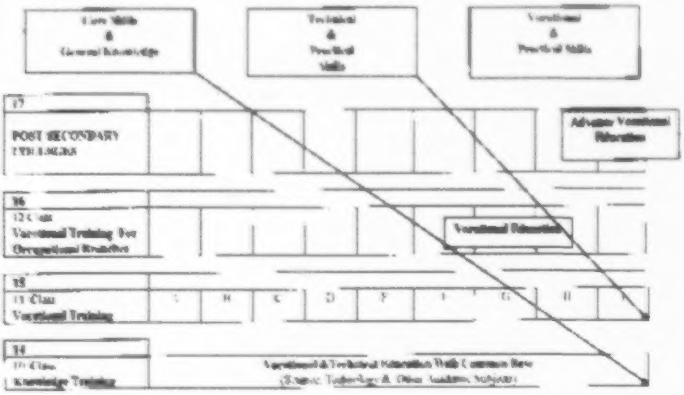
Now, the need to provide consistency, cooperation,and workforce activity in profession working environment and improvement areas at the ranks of national, universal and local is brought to agenda. As a consequence of this, supporting the communication between industry, education and improvement and providing cooperation are appeared as a great necessity. Profession standards defines the qualities necessary for doing a work completely according to the division of labor in that environment. The studies about profession standards and certification should be agreeagle for forming the profession standards answering working life's demands and so with these standards providing profession education system consistent and with application. Also the certificates, which will be given to persons educated according to the developed standards, should be acceptable in working life.

I determining profession standard during determining profession groups that are one of the main studies, in every country there are money differences and different parameters are applied. One of the main reasons of this is being made of profession's definition differently in the period planned in the base of education it should be aimed to train individuals who can adapt working life's rapid progress mast quickly and easily.

Hull is defining the changes that are necessary to be done in professional and technical education system for forming an work power in world standard (Hull, 1994);

- An education program basing world of work/industry's occupation standards; current occupations, occupations in the future.
- An education program giving attention to wide based knowledge and skills again.
- The development of teaching/learning; increasing of teachers skills and standards. Charging of teaching methods, active learning.
- The expect of high success from all students.
- Combining of technical preparation education program with apprenticeship.

In this case, for the individuals attending secondary education after primary education, a common based multichoiced, flexible program that give as possibilities to horizontal and veridical passes is seen suitable in the planned new duration model, after the preparation and leading education planned as one year after primary education widebased prfessional education and general education (with technology education) forms the secondary education period. According to new model secondary education is composed of professional and technical education and general education areas. It is possible to make horizontal and vertical passes in every degree of education.


Core Skills
&
General Knowledge
Technical
&
Practical
Skills
Vocational
&
Practical Skills
17
POST SECONDARY
COLLEGES
Advance Vocational
Education
16
12 Class
Vocational Training For
Occupational Branches
Vocational Education
15
11 Class
Vocational Training
A
B
C
D
E
F
G
H
I
14
10 Class
Knowledge Training
Vocational & Technical Education With Common Base
(Science, Technology & Other Academic Subjects)

A Contemporary Approach To Establis The Framework With Common Base Of Secondary Education Curriculums

A Contemporary Approach To Establis The Framework With Common Base Of Secondary Education Curriculums

If the occupation having an education in vocational and technical education organizations and the needs appeared with the technological developments are thought; the occupations that can have an education period in vocational schools, industrial organizations, management councils and universities can be grouped as below.

Occupational groups (A, B, C, D, E, F, G, H, I) are composed of a few main profession groups in which application areas and related widespread skills, basic core skills, behaviour are seen generally. Main profession (A1, A2, ...C1,C2,v.b) can be defined as heaps formed by professions having behaviors, basic knowledge and skills in needed professions.

Students should start education period with the common knowledge and skills for a group of profession related with each other and lead to a profession by branching during progressing in system. In addition to this, basic skills, cognitive skills and individual qualities should be provided.

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By providing these qualities to individuals, the concept of education life will have new senses.

The structure offered in figure-1. Is a structure going prelicience degree. As tenth degree knowledge education, in common base (related with the science, technology and other academically subjects, wide based professional and technical education) without any branching general knowledge education composed of communication mathematics science, social and environment sciences, creative and esthetics studies can be thought.

With the 11. Class, a period which is branching in time starts beginning this year in the period to the and of prelicience, education based on high performance profession concepts career conscious, general knowledge lessons with application and learning basing, working education should be main points beginning from 11.class working place experience should be gained. Thinking local conditions and the spread of industry's developments , it can be productive if controlled and planned partnership between state and private sector are formed. Giving attention to the distributions of disrictal needs and education associations according to regions, school-industry cooperation should be supported. Professional education can start in 11.class by giving branch education at the basic degree. At this degree with application consisting occupational skills, knowing profession to be able to solve problems working principals are the basic concepts. At the same time summer apprenticeships should be planned and these should support education and it's degree. Prying the knowledges and skills learned during year in real conditions and gaining concrete datas will make learning stronger.

Middle degree profession education can be made in 12.class. This class consists of profession skills at the further degrees communication skills and besides this determining expertness area in profession. It will be useful to put professional skills at the top degree for increasing the harmony of individuals who decides to attend working life after this class. Apprenticeship programs are also still having the property of supporting applications in year.

13. and 14. Class that can be named as profession/technical school of higher education forms the period after secondary education and this period aims further degree profession education. In this degree, guidelines in working place and learning by seeing are competencies that can be gained. Also during these period, individuals should always have a possibility of attending elective lessons according to their interests and skills and by this way developing themselves. In planning lesson programs, more time should be given to elective lesson hours and students should be encouraged as much as possible in taking elective lessons.

NATIONAL EDUCATION SYSTEM
FORMAL AND NON-FORMAL EDUCATION

Mehmet Süheyil Çiyan
MEB Çıraklık ve Yaygın Eğitim Genel Müdürlüğü
Genel Müdür Yardımcısı

1. Introduction

There is a rapid information production today, where a dazzling change process is experienced. Information usage, management and sharing are as considerable as the information production as information is the most essential input for production. Information production speed and application period has reached to a sudden expansion level. Accordingly, fundamental changes are recorded in manpower competence that is demanded at the industry and service sectors.

The reflection of information on the production: requires and obliges ability, technology and competence as well as the usage and the development of high technology. This situation: has variable effects of the mankind, society and business and where leads to complicated situations and increases the need of high skilled manpower who is able to arrange the complicated situation.

The goal of extending the boarders at the economy has highlighted issues such as increasing the production quality, cost, labour force quality and productivity. As well as the human characteristics the information community seeks is as follows:

- To be able to be a good citizen and have taken an education that obtains individual utility,
- To able to produce information and an ability to share,
- To be able to reflect information to good and service production,
- To be able to reach and distinguish information,
- To be able to produce what has not been produce and to create a trademark.

It is expected for our education system: to increase our national competition force, to support and accelerate economic improvement by the help of training a high quality manpower which is needed by the industry and service sector role much more effective and productive.

To plan, program, pursuit and audit education and training services of teachers and students at each level and type of the formal and non-formal education institutes under our Ministry are the major roles of the Ministry of National education.

The general construction of the Turkish National Education System is determined at the National Education Basic Law # 1739. Accordingly our National Education System is realised at two groups as of formal and non-formal education. Formal education comprises of pre-school, primary education, secondary education and higher education. Non-formal education towards people out of formal education and provide s short and long term courses depend on programs implemented and developed by taking into consideration regional necessities. Vocational and technical education is implemented by 4 General Directorate are included MONE.

2.Objectives Of Turkish National Education

The main purpose of the Turkish National Education at the National Education Primary Law #1739 is to educate all members of the Turkish nation as citizens, who are faithful to the reforms and principles of Atatürk, and Atatürk's Nationalism as defined in the constitution, who adopt, save and develop the national, ethical, humane, moral and cultural values, who love and always try to elevate their family, country and nation, who are aware of their duties and responsibilities towards the Turkish Republic and have adopted all these as their behaviour,

To educate all members of the Turkish nation as individuals, who have a balanced and healthy personality and character, in terms of physical, intellectual, ethical, spiritual and emotional aspects, who have the power of independent and scientific thinking and a broad perspective of life, who show respect to human rights and appreciate the entrepreneurship, and have responsibility for the society as positive, creative and productive individuals,
To enable them to acquire the necessary knowledge, skills, behaviour and the habit of working co-operatively, by developing their interest, abilities

and aptitudes, and thereby to prepare them for life and provide them with a vocation that will make them happy and provide contribution to the happiness of the society.

As a result, the objective is to increase the welfare and happiness of the Turkish citizens and the Turkish community while supporting and accelerating the economic, social and cultural development with the principle of national unity and integrity, and eventually to make the Turkish Nation a positive, creative and outstanding partner of the modern civilisation community.

The Turkish education and training system is designed in such a way that it attains these general objectives; and the specific objectives of education institutions of various levels and types are determined according to the general objectives and the basic principles listed below:

- The generality and equality,
- Demands of the Individual and society,
- Management,
- Right of education,
- Equal Opportunity and Means,
- Continuity,
- Reforms and Principles of Atatürk, and Atatürk's Nationalism
- Education of democracy,
- Secularism,
- Being scientific,
- Being Planned,
- Mixed education,
- Co-operation between the school and the family,
- Education everywhere

3. The Structure Of The National Education System

Our National Education System has been determined by the Fundamental Law for Education No. 1739. It has accomplished from two sections; 'formal education' and 'non-formal education'.

It comprises all the pre-school, primary, secondary and higher education institutions.

Pre-school Education

Pre-school education is up to desire and also it comprises the education of the infants.

Developing the child physically, intellectually, psychologically and making them gain good behaviours , preparing the infants to basic education, creating an environment for the infants who have grown up in unsuitable conditions and providing the infants to talk good and accurate Turkish. These are the aims of the pre-school education's.

Pre-school education institutions can be established as independent nursery schools and also if it is necessary in some places, classes or application classes can be established bound to other interested education institutions.

Primary Education

Primary education is formed of five years of primary and three years of secondary education and it also comprises the education and instruction of the children at the ages between six and fourteen. These schools can be constructed as independent schools or according to the possibilities and conditions it can be constructed in corporation.

According to our Constitution the Act no . 42 " Primary education is compulsory to the male and female citizens and the state schools are free of charge." Compulsory today only comprises eight year of primary education.

Making our children gain good behaviours and habits , the necessary basic knowledge and skills to be one good citizens , preparing them to upper education according to their interests and capability are the objectives of the primary education.

Secondary Education

After eight year Compulsory Primary Education , secondary education comprises all the institutions which give at least three year of general, professional and technical education.

All students who have completed their eight year basic education can benefit from secondary education. Giving least level of general knowledge to recognise the individual and social problems also finding solutions, preparing them to the future according to their capability, skills and interests so that they can have the strength to contribute to the socio- economic and cultural development of the country are the aims of the secondary education .

Needless to say, while these duties are executed , the optimal balance between interests, wishes , capabilities of the students and the country's need for productive power is taken into consideration.

1 Higher Education

After primary education , there is higher education and it comprises the institutions which educate students at the level of bachelor's degree, post graduate and two years of higher education.

Educating students according to their interests , capabilities and skills , which all together is a major factor in the development of the country , in the direction of superior level of the need for human power without compensating the principles and target of our National Education.

Furthermore, our target in higher education is to make scientific researches, have a place among the Developed World Countries not only with their attentive studies and scientific doctrine but also educate students who have positive contributions to researches and studies and prepare conditions.

Higher Education Institutions ;

- Universities ,
- Faculties ,
- Institutions ,
- High schools,
- Schools of music ,
- Vocational high schools,
- Research and application centres.

2 Non-formal Education

Non-formal education comprises education , instruction , guiding and application activities establishing near or out of formal education for citizens who have not attended or not only have attended to a degree but also have come out of a degree in formal education. Gaining skills and basic knowledge, developing the ability and knowledge which the students have learned at the latest school degree they have attended and on top, providing new possibilities for the students to earn their living , is the aim of nonformal education.

The aim of non-formal education is to establish a near or out of formal education for citizens who have not attended or not only have attended to a degree but also, have come out of a degree in formal education , according to our National Education :

- To teach reading and writing and also provide an opportunity to complete incomplete education.
- To provide an educational opportunity for the easiness of harmony with scientific, technological, economic, social and cultural development.
- To educate in order to develop, protect, introduce and take our National Culture Values seriously.
- To make them gain habits to use and realise the value of spare times in a good and effective way.
- To provide them an opportunity to find an appropriate job according to the policy of economical developments.
- To make students from various jobs gain required knowledge and skills.
- It is the duty of the non-formal education to provide not only the young population who can work and has no profession but also the ones who has a profession and help them to make progress in their jobs for the benefit of the family and country economics .

Non-formal education activities are planned and implemented with different programs at the different schools and institutions to prepare possibilities providing job through the development of our economy,
-And gaining a creditable vocation by means of gaining skill and working habits.

The Vocational and Technical Education System

Schedule of the vocational and technical education system is given Schedule 1. Vocational education implement at vocational and technical high schools and apprenticeship training centers. These schools are the institutions preparing the students for university, growing up the manpower for business areas. It depends on compulsory education for eight years and generally three or four years. And also there have been Anatolian high schools having preparing grades. Each school carry out non-formal education activities within.

Apprenticeship training education comprises the students who have finished the basic education, who couldn't go to an upper education or the ones who because of several reasons couldn't attend to a formal education.

Apprenticeship training education with apprenticeship training education center is a kind of education which is organized according to a standard so as to gain journeyman, apprentice, craftsman and also knowledge skill and job habit needed for a profession.

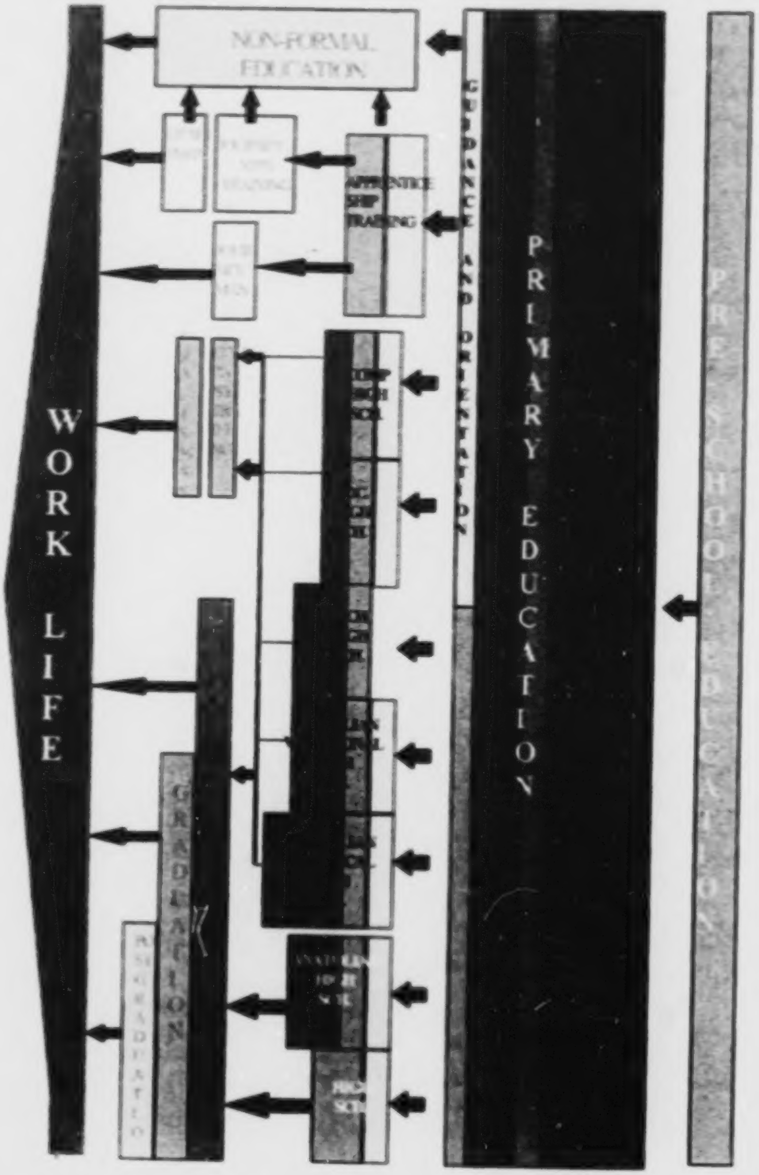
In Turkey Vocational and Technical Education is organised according to the circular and regulations of the Turkish Republic Constitution, Fundamental Law for Education, Apprenticeship and Vocational Education Law #3308 .

Apprenticeship, vocational and technical education developing and Spreading Fund is established in order to support develop and spread the whole of vocational and technical education.

13 different sources are covering expanse of fund incomes. It is a kind of extra financing support to fund general budget possibilities.

Schdule 1

4.1General Directorate Responsible for Vocational Technical


NON-FORMAL EDUCATION
APPRENTICESHIP TRAINING
GUIDANCE AND ORIENTATION
PRIMARY EDUCATION
PRE SCHOOL EDUCATION
WORK LIFE
GRADUATION
HIGH SCHOOL

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Education With School And Institution Varities.

In our country, vocational technical services, formal and non-formal vocational education programmes are appreciated in vocational and technical education schools and institutions and also in business areas where there is opportunity. These schools and institutions are in the following places in our Central Organisation Ministry;

- General Directorate of Boys Technical Education,
- General Directorate of Girls Technical Education,
- General Directorate of Commerce and Tourism,
- General Directorate of Apprenticeship and non-formal Training.

Are active in the structure of 4 general directorates.

EXPECTATIONS OF THE MODERN PLANTS IN TURKEY ON PRODUCTION AND MAINTANANCE SPECIALIZATION

Hayrettin KARCI
FESTO San. ve Tic.A.Ş

ISTANBUL

SUMMARY

Like in other developed countries, also regarding Turkey it can be seen clearly that the number of modern companies is steadily increasing. These companies have been trying hard to be able to compete in the world market in order to be successful in the future world. To enable this, modern technologies and new methods of organisation are used.

In fact, it is not enough only to use modern technologies and to work on a high organisational level, if we mean to be position ourselves in the future world market as a market leader. There is one more point which is very important for modern companies, which is actually the unavailability of a qualified workforce.

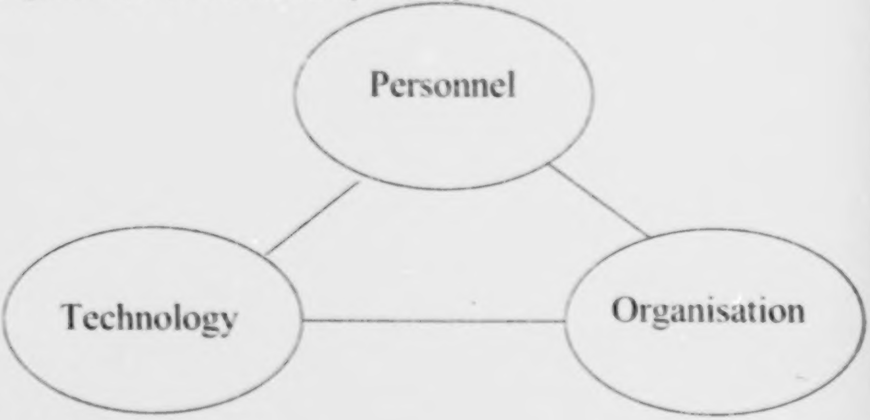
Modern companies have new expectations regarding the qualifications and skills of their employees. These expectations are mainly formed by the mentioned modern technologies and the new organisational methods being applied in today's plants. Covering these expectations is only possible with a highly trained and specialised workforce.

1. INDUSTRIAL TREND

When the state of today's industry is evaluated, approach and trend is the following:

- increased use of modern technologies,
- increasing complexity concerning technology,
- Modernisation of organisations,
- "Quality" becomes a key function,
- Concentration on customers needs and interests.

The development mentioned above pushes companies into a process of re-organisation. This process again provides companies with new chances and opportunities. Accordingly changes in the company organisation can be divided mainly in three parts:



Scheme 1:

In the triangle seen above, changes are supposed to be made in each corner, specified as Technology, Organisation and Qualified Workforce. The future business development and the set of changes can not be considered to be more important than the definition of priorities. In order to define the priorities, not only the technology and the company's organisational structure has to be renewed, also the human beings working with and within these systems have to get themselves adjusted to the mentioned improvements. As it can be seen in some companies, one major problem concerning the implementation of modern technologies and organisational methods is that these are tried to be established before the required qualified workforce has been provided.

2. THE AIM OF CHANGES

The changes mentioned before are done to realise specific targets referring to the general idea of modernisation:

- to use the potential of the plant up to the maximum level (usage of capacity),
- to increase the economic 'lifespan' of the plants to the maximum level,
- to improve the efficiency of the plant to the maximum level (changes in design),
- to produce products which need as little maintenance as necessary (design),
- to reduce unplanned down-times of the plant towards zero,
- to reduce the cost of maintenance to a minimum level,
- To reduce scrap within production towards zero,
- To reduce the cost of scrap to zero,
- To produce in shorter time

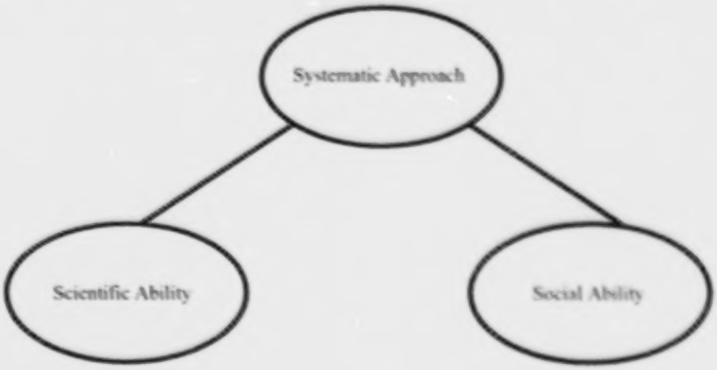
As we have learned already before, changes which are supposed to be applied in the field of industry, should be applied to the work force before. The personnel of a plant should not only believe in the targets mentioned above, but also in the need of changes to reach the targets defined. As long as a company has a learning tradition, training can provide this. Accordingly the need of training has to be understood from the angle of the 'changes', as we have discussed before.

3. The Influence of Changes to Training

Aiming on modernisation, the influence of changes on training can be observed from different points :

- Understanding technology in complex systems,
- Promoting social improvements and providing systematic approach,
- gaining qualifications and special knowledge
- increasing individual responsibilities
- Total Quality Management (TQM)
- Total Productive Maintenance (TPM)
- Product and Service Quality

If these points are evaluated regarding training, the following scheme evolves consisting of three main aspects of personnel training.

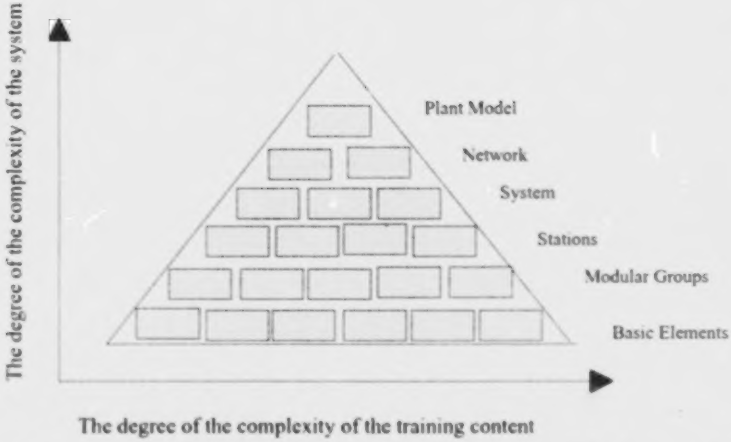


Scheme 2:

Experience from industry shows that, training work force needs systematic approach, scientific ability and social ability. Only in this case the 'work-force' will have the chance to be active and successful in a modernised business environment. In fact, the 'human factor' is the major aspect and the best source to assure success.

4. Technological Training System

A systemised approach towards training is necessary, if the training results are expected to last for a longer period. Efficiency and success of training is directly linked to the system of the training. Training does not mean to give only ideas and some knowledge about a specific topic. More important is, that the trained person gains experience, which helps to apply the knowledge learned. The target of a every training should be to help the individual to integrate the new knowledge correctly into the existing working surrounding, as only this assures training success at the end. Furthermore a training programme also has to help the individual to solve problems even if the existing knowledge is sufficient. This is done by enlarging the 'vision' of the individual.


The degree of the complexity of the system
Plant Model
Network
System
Stations
Modular Groups
Basic Elements
The degree of the complexity of the training content

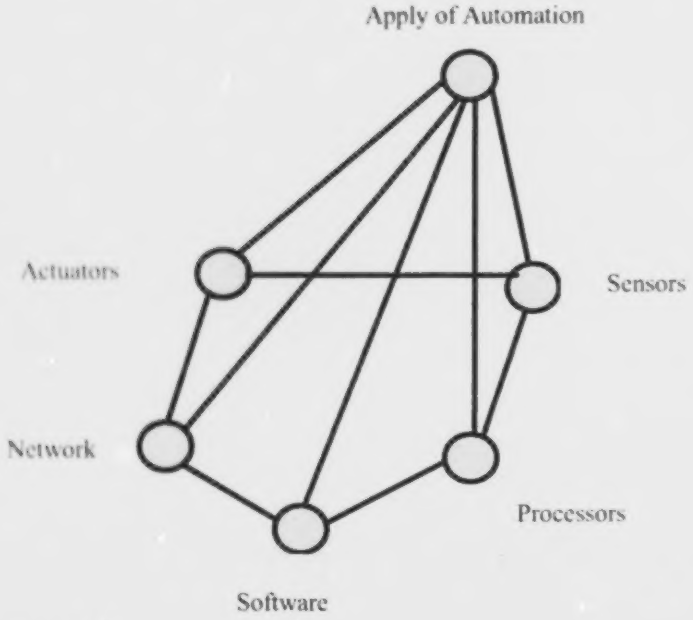
Schema 3 : Shows the complexity level of the system and the content of the Technology Training

As it is seen from the scheme, the horizontal lines show that the complexity of the training content increases more and more, and the vertical lines show that the usage of complex systems in companies increase too. It is also seen that, not only mechanics are required but electronics are being used too, which shows that automation systems being used in the industry of nowadays are complex .

5. Training in Automation

After underlining the importance of having a system and a concept in training, the most efficient way to be trained in automation technologies has to be mentioned if each actually can be understood from the 4th. schema shown below.

There are five (5) main technologies, which can be considered as the most important topics of the automation technologies. If the main topics of the automation technologies are understood correctly by 'hands on training' system, and if the general 'logic' of a plant is evaluated, the step to complex automation systems becomes done.



Scheme 4:

If we also add mechanics to the 5 main topics of automation technologies, a new major evolve with the name of 'mechatronics' As it is seen, 'Mechatronics' consists of mechanical elements, softwares, electrics, and electronics . If we make a summary, we have to say that training needs a system and a concept, and success of the training directly gets influenced by the concept and system used during the training program.

6. Result

The qualified work- force in modern industry is the most important factor to compete in the market , to assure efficiency and quality at the end.

It is said by everyone that the required qualified people are not existing. On the other hand, if we evaluate the trend of the industry and fast developments in technology, we unfortunately see that the existing traditional education system can not cover the demands of the industry.

This result can easily be seen if we evaluate the newly graduated young people's difficulties that they face when they start to work in industrial companies. Because of this, they look for some other possibilities and opportuneties and prefer to be active in management rather than being active in engineering subjects. The only reason for this is the case that they are not qualified enough to cover the expectations demanded.

Because of all the reasons mentioned above, we clearly can say that progressive training is a 'must'. Education needs a system and this system should be formed according to the demands of industry and the developments in training should be faster than the developments in technology.

- The sources used for the preparation of this speech are gotten from the library of FESTO SANAYİ VE TİCARET A.Ş

QUALITY MATTERS IN INTERNATIONAL VOCATIONAL EDUCATION AND TRAINING

Bora ÇAĞLAR
Turkish Air Force
Air Logistics Command

The main philosophy behind the The Turkish Air Force Logistics System is to support the combat units with great effectivity and safety in an economical way at any time, in every situation and everywhere. The system, is designed with a requirements determination, acquisition and distribution elements under a centrally managed organization and is assumed material, fund and technical management responsibilities in order to achieve functional harmony among these elements. The foundation of this system is well educated and trained personnel. In recent years the employment of the required technical personnel from the vocational education and training institutes, let The Turkish Air Force's attention to be directed to the existing capabilities of these schools. The applications in Turkey, due to the uncapabilities of these educational environment causing students not to be prepared well when employed and taking a long time to be oriented with the tasks. It is evaluated that vocational training and education institutes should be supported by public and private sectors and a strict policy should initiated to enhance quality.

Ladies and Gentlemen ;

I'm Colonel Bora Çağlar, and in this conference representing The Turkish Air Force, more specifically the logistics side of The Air Force. My profession is mechanical engineering, having a masters of science degree and currently I'm the production manager of The Second Air Supply and Maintenance Center which is located in Kayseri, the town almost at the center of Anatolian Peninsula.

Before talking about the main subject, if I may, I would like to say a few words about The Turkish Air Force Logistics System .

The main philosophy behind The Turkish Air Force Logistics System is to support the combat units with great effectivity and safety in an economical way at any time, in every situation and everywhere. To be able to achieve this, the system is designed with a requirements determination, acquisition and distribution elements of a centrally managed logistics support organization. The requirements determination is based on the real usage factors and done automatically. The acquisition process pertinent to these requirements executed throughout the internal and the external sources. Distribution is accomplished by pushing the material to the combat units instead of having them by pulling the material by themselves.

To operate the system as it is constructed, three main management responsibilities are clearly identified. They are namely the material management, the fund management and the technical management responsibilities. Under Logistic Command, controlling these three main responsibilities, there are three Air Supply and Maintenance Centers which organically performs the depot level maintenance operations, modifications and tests of various weapon systems including aircraft, aircraft engines, avionics, controls and accessories, missiles, ground support equipment etc., and produces systems, units, spare parts required by the item managers who numerically control the inventories considering the daily usage and the war reserves.

The First Air Supply and Maintenance Center located in Eskişehir, 220 kilometers west of Ankara and is responsible from supporting the combat aircraft and high performance and high trust aircraft engines. The Second Air Supply and Maintenance Center is located in Kayseri, 330 kilometers south-east of Ankara, and is responsible from supporting the wide body transportation aircraft and early stage pilot training aircraft. This center is also capable of producing more than 10.000 different items. The Third Air Supply and Maintenance Center is located in Capital Ankara and is responsible from the airborne avionics and electronics including ground radar systems.

All three Air Supply and Maintenance Centers are operated in accordance with a so called Technology Repair Center Concept. This means to repair a cockpit instrument the technology is the same for combat aircraft as well as for the transportation aircraft. Therefore one single center is considered to be technologically sufficient enough to do the job for any airplane.

In these centers more than 500 engineers and 4000 technicians are working to support and enhance The Turkish Air Force mission operation capabilities. These centers are also equipped with highly sophisticated and state of art technology maintenance, production and test equipment. The centers are qualified and certified through ISO 9000 series and AQAP 110,120 series of standards. One other unique feature of these centers is the Revolving Fund Organization. The ''Revolving Fund Law'' allows these centers to conduct aviation businesses for internal and external customers utilizing available excess man and machine hours for the benefits of Turkish Government Treasury.

To provide the best possible logistic support to The Turkish Air Force operational requirements and enhancing the existing capabilities the main driving force as in the other major businesses, is the well educated and trained people.

Turkish Air Force Logistic Support System utilizes a variety of technical personnel. They are namely the officer and civilian engineers who are mainly employed at the depot level maintenance sites and non commissioned officers (NCO's) as maintenance technicians for the operational base level tasks, and civilian labor generally employed at The Air Supply and Maintenance Centers. The engineers are university graduates of at least a four years curriculum being completed by them. Non commissioned officers are generally high school graduates of being attended three years of secondary education after 8 years of compulsory Primary Educational Schools. Recently in the logistic support area the so called Industrial Vocational High School graduates are preferably hired for maintenance operations. Similarly the main task force of The Air Supply and Maintenance Centers, the technicians are also being selected and hired among the graduates of Industrial Vocational High Schools.

Training is a continuous or more explicitly is a non stop activity within The Turkish Air Force. Air Training Command is the hearth of this life phenomenon. Disregarding the pilot or combat readiness training and the war collage education, the technical training of various job opportunities are lie within the responsibilities of Air Technical Schools Command which is located in İzmir on the western coast of Turkey.

The young NCO's after being joined to Air Force are directed to these schools to receive adequate technical knowledge and skills which they needed to accomplish their tasks successfully and professionally.

Training of NCO's continue when they are assigned to various operational bases and headquarters. This time On the Job Training programs strictly put into forward. These programs as the name implies has been accomplished while the NCO's are conducting their tasks virtually under supervision. On the Job Training is a two channel process. Channel 1 leads NCO's to get the right and current technical knowledge. Channel 2 is the road to receive the required skills by actually performing it. There are three skill levels associated with on the job training programs.

Apprentice (Skill level -3). NCO's are equipped with limited knowledge and skill. In this level they are not able to do the tasks by themselves. They need assistance. The courses will lay the foundation for additional training at the graduate's first duty assignment.

Journeymen (Skill level -5) . NCO's are equipped with adequate knowledge and skill and are able to do the tasks by themselves. However when the tasks are accomplished, the control of certain points are necessary. Once upgraded to the 5- level, journeymen will enter into continuation training to broaden their experience base by increasing their knowledge and skill in troubleshooting and solving more complex problems. Five – levels may be assigned job positions such as aircraft dedicated crew chief, assistance crew chief, quality assurance, aero-repair, and various staff positions.

Craftsman (Skill level -7) . In this skill level NCO's know all the required theories and principles. They do the tasks by themselves right and quick. There is no need to control their work. They, instead control the lower skill level NCO's work. A craftsman can expect to fill various supervisory and management positions such as expediter, shift leader, element chief, flight chief, task certifier and various staff positions.

Carrier skill progression which is an adequate training and timely progression from the apprentice to the craftsman skill level plays an extremely important role in the Turkish Air Force's ability to accomplish its mission. Everyone involved in training must do their part to plan, develop, manage and conduct an effective training program.

In addition to The Air Training Schools Command training programs, there are scheduled training programs in some of the operational bases and Air Supply and Maintenance Centers. Since the training is a life phenomenon and style within the Turkish Air Force preparedness infrastructure which is well developed and equipped in these sites under the individual Technical Training Center Organizations, more then 300 structured courses are being scheduled and provided every year for officers, non commissioned officers, and the civilian technicians. The main goal behind this highly expensive and time consuming effort in obviously to prepare the man and the woman for the war time tasks and the ultimate professional safety and quality work during the peace time operations.

Nobody is ready and prepared well when joined to The Air Force, and this has never been expected so. The source of the technicians are the vocational education and training schools in Turkey. The quality of the industrial vocational high schools and the 2 years university level so called pre-license vocational education and training schools could not be considered at the level of international standards from the view of Air Force expectations and the evaluations of the current applications. Of course some of the best supported and financed schools are out of this scope. However they are few in number within the majority and could be easily neglected. There are few reasons which might be stated to support this argument:

- The existing curriculum in these schools is almost obsolete, it is not reflecting and promoting the 21st century carrier progression perspectives.

- The training material and equipment are also obsolete, not reflecting tomorrows even today's requirements.

- The budget allocated to these schools are not sufficient to initiate new programs and make necessary changes to be keep up with the rapid changes in technology and today's management world.

- There is not a strict policy for the students transferred to private and public employers for certain periods as an apprentices are not closely watched and trained well. Especially in the private employer's environment they are considered and let it work as very cheap labors.

- In recent years, The Aviation Vocational Education and Training Schools became an important work power source for The Turkish Air Force, public and private airlines and major aviation industries in Turkey. The first aviation school was established in 1986 in Eskişehir nearby The First Air Supply and Maintenance Center. The second one was established in 1995 in Kayseri near by The Second Air Supply and Maintenance Center which my self personally work for. Even both schools are structured under the local universities, they have been receiving the support and assistance from The Air Force. Turkish Air Force provides the instructors, aviation's materials, and documents, exhibits, equipment etc. and also opens the gates for the students to be involved on the job training's by physically being in the real working maintenance and manufacturing areas under the guidance of selected supervisors.

It is hard to say that there is any other similar type of support for the other vocational education and training schools of different fields, in public or in private.

Vocational education and training can be effectively provided when some basic principles are being followed. As a conclusion of my speech I would like to address few proposals related to these principles.

- Vocational education and training should be offered outside the school systems too.
- Vocational education and training should be linked to employers.
- Private financing and especially delivery of vocational training should be encouraged.
- Vocational education and training initiatives should be kept evaluated periodically.
- A favorable policy environment should be created.
- Primary and secondary education should be strengthened.
- Private sector training should be encouraged.
- Regulations of private training should be reduced.
- Public training effectiveness and efficiency should be improved.
- Appropriate objectives should be selected.

- Market orientation in planning should be improved.
- Institutional responsiveness to market forces should be improved.
- Training resources should be used efficiently.
- Sources of finance should be diversified.
- International assistance should be looked for.

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HKY 164-16 (A) On The Job Training

18 December 1997

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- Industrial Development and Education.

Rolf J. LENSCHOW

- Engineering Education in Japan : A Career – Long Process.

Jeffrey FREY, University of Maryland, USA.

TÜRKÇE MAKALELER

TURKISH ARTICLES

TÜRKİYE'DE MESLEKİ VE TEKNİK EĞİTİMDE ULUSLARARASI KALİTE TEMİNİ İÇİN BİR ÖNERİ

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ÖZET:

Mesleki ve Teknik Eğitim veren orta öğretim (Meslek Liseleri) ve Üniversite (Meslek Yüksekokulları) birimlerinin endüstrimizin ve diğer sektörlerin ihtiyaçlarına cevap verecek şekilde teknik eleman yetiştirilmeleri bir koordinasyon ve kalite güvence merkezinin planlaması, yönlendirmesi ve denetimi ile mümkündür. Böyle bir koordinasyon ve kalite güvence merkezi ise Milli Eğitim Bakanlığının, Mesleki ve Teknik Eğitimle ilgili birimlerinden, Yükseköğretim Kurulu Başkanlığının Meslek Yüksekokulları ile ilgilenen birimlerinden, Endüstriyel kuruluşların, Sendikaların, Odaların, Sanayi ve Ticaret Bakanlığı ve Çalışma-Sosyal Güvenlik Bakanlığı temsilcilerinden oluşmalıdır. Böyle bir merkezin Mesleki ve Teknik Eğitimi genel hedefler doğrultusunda koordine ederek, Mesleki Eğitimde kalite güvencesini sağlayabiliriz.

Meslek liseleri ve Meslek Yüksekokulları yapıları gereği ayrı şekilde değerlendirilmeli, fakat iki birim arasında sürekli işbirliği sağlanmalarıdır.

28 Şubat 1998 tarihinde Yükseköğretim Kurulu Bakanlığı ve İstanbul Sanayi Odası Vakfı arasında imzalanan işbirliği protokolü Meslek Yüksekokulları için böyle bir koordinasyon ve kalite güvence sistemi için çok iyi başlangıç olmuştur ve henüz 6 ay gibi sürede çok önemli işler başarmıştır. Bu bildirinin sunulduğu IVETA 98 konferansı da YÖK-ISOV işbirliği protokolü sonucunda gerçekleşmiş etkinliklerden birisidir. Bildiride özellikle YÖK-ISOV işbirliği protokolünün yapısı ve gelecek için öneriler anlatılacaktır.

GİRİŞ:

Yüksek kalitede ürün için yüksek kalitede insana ihtiyaç vardır. Dünyada üretimde, pazarlama ve satışta sınırsız bir rekabet vardır. Bu rekabetten kazançlı çıkacak olanlar kaliteli insanlarla, kaliteli ürün üretenler ve kaliteli pazarlama teknikleri ile bu ürünleri dünyaya satanlardır.

Kalite güvence sistemi Türkiye iç pazarı için değil Dünya ile rekabet için zorunludur. Kalite güvece sistemi; kişilerin, ürünlerin ve işlemlerin kalitesinin geliştirilmesini amaçlar. Kalite güvencesi sisteminin oluşturulması için Devlet (İlgili Bakanlıklar, YÖK, Mesleki ve Teknik Eğitim veren okullar), Endüstriyel Kuruluşlar, Odalar ve Sendikalar karşılıklı etkileşimli esnek bir yapı içinde işbirliği yapmalıdırlar.
İVETA 98 konferansında Almanya'da , İskoçya'da , İngiltere'de , ABD , Avustralya , Güney Afrika , Taiwan , Asya'da ve Avrupa'daki, mesleki ve teknik eğitimde kalite güvence sistemleri anlatılmaktadır. Mesleki ve Teknik Eğitimde kalitenin geliştirilmesi ve güvencesi için dünyada sürekli bir çalışma vardır.

Türkiye'de benzeri bir yapıyı, yukarıda konu edilen ülkelerin modellerini inceleyerek kendisi için oluşturmalıdır. YÖK-ISOV işbirliği protokolü bu işlemin başlatılması için önemli bir fırsatdır ve kalite gövencesi sistemi içinde uygun alt yapıya, hukuki dayanağa sahiptir.

YÖK – ISOV İŞBİRLİĞİ PROTOKOLU:

28 Şubat 1998 tarihinde YÖK ve İstanbul Sanayi Odası Vakfı arasında: YÖK – Dünya Bankası Endüstriyel Eğitim Projesi Meslek Yüksekokulları ile İstanbul Sanayi Odasına bağlı kuruluşların işbirliğini içeren protokol YÖK, Yürütme kurulu üyesi Emekli Hava Korgeneral Erdoğan ÖZNAL ve ISO Meclis Başkan Vekili ve ISOV Yönetim Kurulu Başkanı Dr.Oktay DURAN tarafından imzalanmıştır.

YÖK-ISOV İŞBİRLİĞİ PROTOKOLUN AMACI:

Ülkenin planlı ekonomik gelişmeleri içerisinde nitelikli ara insan gücünün kalkınmaya katkıda bulunması ve yapılan yatırımların yararlı sonuçlar doğurması için Meslek Yüksekokulu - Endüstri İşbirliğinin işlevsel yapısını kurmaktır.

YÖK-ISOV İŞBİRLİĞİ PROTOKOLUN KAPSAMI:

Ülke Endüstrisinin nitelikli teknik ara elemana duyduğu ihtiyaç açığını kapatmak üzere

a) YÖK – Dünya Bankası Endüstriyel Eğitim Projesi bünyesinde oluşturulan Eğitim Programlarının geliştirilmesi ve güncelliğinin korunmasına katkı,

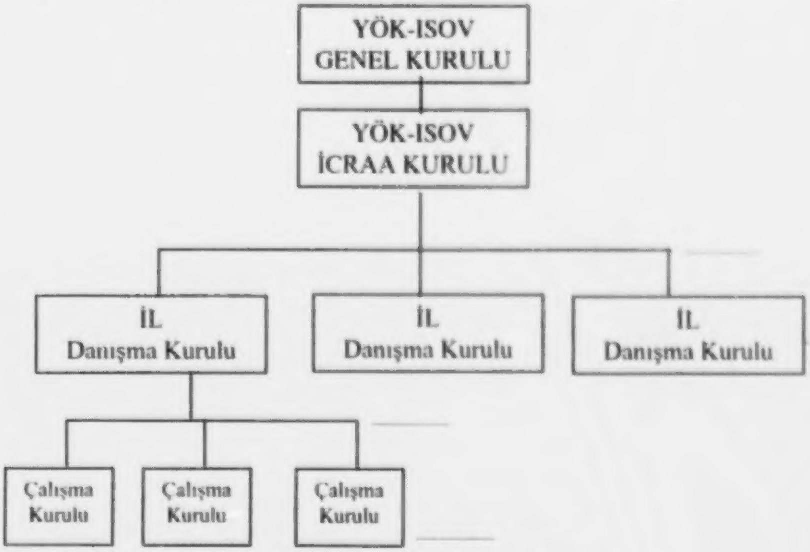
b) Meslek Yüksekokulu öğrencilerinin eğitim ve öğretim süresince kazandıkları teknolojik bilgi ve becerilerinin geliştirilmesine yardımcı olmak.

c) Mezun öğrencilerin bilgi ve becerilerinin bir sertifika ile tespit edilerek mesleki ve teknik eğitimin kalite güvencesine katkı sağlanmak

d) Öğretim elemanlarının da belirli aralıklarla sanayide çalışması esaslarını kapsamaktadır.

PROTOKOL ÇERÇEVESİNDE OLUŞTURULAN KURULLAR:

İşbirliği protokolünün verimli çalışabilmesi için çeşitli kurallar oluşturularak, görev ve yetki tanımları yapılmıştır.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GENEL KURULU
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Şekil 1 YÖK-ISOV Kurullarının Genel Yapısı

İVETA 98 KONFERANSI, ANKARA

YÖK-ISOV GENEL KURULUN ÜYELERİ VE GÖREVLERİ:

YÖK-İSOV Genel Kurulu;

- YÖK Temsilcisi
- ISOV Temsilcisi
- TOBB Temsilcisi
- TİSK Temsilcisi
- TÜRK-İŞ Temsilcisi
- Sanayi ve Ticaret Bakanlığı Temsilcisi
- Çalışma ve Sosyal Güvenlik Bakanlığı Temsilcisi
- 2 Meslek Yüksekokulu Temsilcisi olmak üzere 9 üyeden oluşmaktadır.

YÖK-ISOV GENEL KURULUNUN GÖREVLERİ:

YÖK-ISOV Genel Kurulu Meslek Yüksekokulu/Endüstri İşbirliği protokolünün yürütülmesinden sorumlu en üst kurul olup, görevleri aşağıdaki gibidir.

a) Meslek Yüksekokulu/Sanayi işbirliği politikalarını ve stratejilerini belirlemek, geliştirmek,
b) İcraa Kurulunu oluşturmak,
c) Belirlenen politikalar doğrultusunda hazırlanan faaliyet planı ve bütçeyi onaylamak,
d) Kabul edilen bütçenin öngördüğü finans kaynaklarını temin etmek.
e) İcra Kurulunun faaliyetlerini izlemek ve gerekli üst düzey kararları almak.

İCRAA KURULU ÜYELERİ VE GÖREVLERİ:

- ISOV Temsilci
- YÖK- Dünya Bankası, Endüstriyel Eğitim Projesi Başkanlığının (EEP) Temsilcisi
- MESS (TİSK) Temsilcisi
- Türk Metal (TÜRK-İŞ) Temsilcisi
- İİBK Temsilcisi
- MYO (2 Kişi) olmak üzere yedi kişiden oluşmaktadır.

İCRAA KURULUNUN GÖREVLERİ

Bu kurul Meslek Yüksekokulu/Sanayi işbirliğinin yürütülmesinden doğrudan sorumlu ve bu konuda yetkilidir. İcraa Kurulunun görevleri aşağıdaki gibidir.

a) Üst Kurulun kararlarını uygulamak,
b) Üst Kurulca belirlenen politikalar doğrultusunda faaliyet planı ve bütçe hazırlamak,
c) Faaliyet planı uyarınca gerekli kararları alıp uygulamak,
d) Piyasada çalışacak elemanların iş yerine uyum süresini kısaltacak yönde Meslek Yüksekokulu eğitim programlarının geliştirilmesine katkıda bulunmak.
e) Piyasanın ihtiyaç duyacağı meslek alanlarının belirlenmesi yönünde çalışmalar yapmak.
f) Meslek Yüksekokulu eğitim programlarının atelye ve laboratuvarlarını projelendirmek
g) Meslek Yüksekokulu eğitim ve öğretim program-kalite standartlarının belirlenmesi ve geliştirilmesi yönünde çalışmalar yapmak.
h) Meslek Yüksekokulu eğitim programları için kitap ve doküman hazırlanması gibi konularda araştırmalar yapmak ve sonuçlarını yayınlamak.
i) Çalışma alanına giren konularda ilgili kurul, kurum ve kuruluşlar arasında koordinasyonu ve iletişimi sağlamak.
j) Faaliyet planı çerçevesinde İl Danışma Kurulları ile işbirliği yapmak.
k) Faaliyet alanlarında uluslar arası ilişkiler kurmak.
l) Meslek Yüksekokullarının ülke genelinde tanıtımı ile ilgili çalışmalar yapmak.
m) Meslek Yüksekokullarındaki eğitim ve öğretimi destekleyici ve teşvik edici ödül ve burslar vermek.
n) Endüstriye dayalı eğitim ve öğretim elemanlarının iş tecrübelerinin artırılması hususunda çalışmalar yapmak.
o) Mezun öğrencilerin istihdamı ile ilgili olarak Meslek Yüksekokulları ve sanayi kuruluşları arasında iletişim ve koordinasyonu sağlamak.
p) İşbirliği çerçevesinde verilecek sertifikaların kalite standartlarına uygunluğunu belirlemek.
q) EDE Genel Kurulunun vereceği diğer görevleri yapmak.

İL DANIŞMA KURULARININ GÖREVLERİ:

İcraa Kurulunun İl çapındaki benzeri olup, üyeler icraa kurulundaki gibi seçilir ve yedi üyeden oluşur.

a) Üst kurulunun belirlediği politika ve kararları dikkate alarak il genelinde Meslek Yüksekokulu/Sanayi işbirliği politikalarını belirlemek ve stratejiler geliştirmek,
b) Belirlenen politikalara uygun faaliyetler düzenlemek ve gerekli kaynakları temin etmek,
c) Meslek Yüksekokulu/Sanayi işbirliği ve MYO eğitim programlarının geliştirilmesi konularında İcra Kuruluna tekliflerde bulunmak,
d) Yerel sanayinin ihtiyaçları doğrultusunda paket eğitim programları hazırlatmak.
e) EDE uygulamaları ve öğretim elemanlarının teknolojik tecrübelerinin artırılması hususunda MYO ve yerel sanayi kuruluşları arasında koordinasyonu sağlamak,
f) MYO'larının teknik donanımlarının geliştirilmesi için destek temin etmek,
g) MYO'larının yerel bazda tanıtımları ile ilgili faaliyetler yapmak,
h) Yerel Meslek Yüksekokulu/Sanayi işbirliği ve eğitim programları konusunda çalışma kurullarını belirlemek,
i) Mezun öğrencilerin istihdamı ile ilgili olarak yerel bazda sanayi kuruluşları ile koordinasyonu sağlamak.
j) Sınav komisyonlarına sanayiden seçilecek üyeleri belirlemek,
k) Hizmetin etkin yapılması ile ilgili diğer görevleri yapmak.

ÇALIŞMA KURULLARI:

a) Üst kurul, icra kurulu ve İl Danışma Kurulunca alınan kararları da göz önüne alarak Meslek Yüksekokulu/Sanayi ilişkilerinin ve müfredatların geliştirilmesi yönünde çalışmalar yapmak,
b) Eğitim açısından ortaya çıkan ve değişim gerektiren konuları İl Danışma Kurulu aracılığıyla ile İcra Kuruluna bildirmek,
c) Diğer MYO'larında bulunan çalışma kurulları ile sürekli iletişim içerisinde bulunmak ve işbirliğini geliştirmek yönündeki çalışmaları yürütmek,

İŞBİRLİĞİ PROTOKOLÜNÜN GELİŞTİRİLMESİ İÇİN ÖNERİLER:

- YÖK-ISOV işbirliği protokolü Meslek Yüksekokulları-Endüstri ilişkilerinin geliştirilmesi ve kalite güvence sistemi için çok iyi bir başlangıçtır.

  İşbirliği protokolünün geliştirilmesi ve işlevselliğinin artırılması için öneriler aşağıda sunulmuştur.

KALİTE GÜVENCE MERKEZİ:

YÖK Dünya Bankasının Endüstriyel Eğitim Projesi Başkanlığının 1984 yılında başlayıp 1998 yılı Mayıs ayı sonunda tamamlanan I. ve II. Projesi ile 197,8 Milyon USD harcanmış olup, 32 Meslek Yüksekokulu atelye-laboratuvar, müfredat programı yönünden dünya standartlarına ulaştırılmıştır. Proje ile 732 öğretim elemanı 3,7 ve 9 aylık peryodlarla ABD ve İngiltere'de eğitilmişlerdir.

Türkiye'de müfredat geliştirme konusunda önemli bir bilgi alt yapısı oluşmuştur. Gelecek yıllarda bu programların veya yeni programların geliştirilmesi için YÖK-Dünya Bankası Endüstriyel Eğitim Proje Başkanlığı ve ISOV'un işbirliği ile çalışmalar sürdürülebilir.

Her programdan en az bir uzman sürekli müfredat geliştirme konusunda çalışmalı diğer elemanlar ise Endüstriden veya Meslek Yüksekokullarından geçici süre ile ihtiyaç duyuldukça ücret karşılığında program geliştirme komisyonlarında çalıştırılmalıdır.

İskoçyadaki Scottish Qualification Authority (SQA)nin kalite güvence sistemi Türkiye için örnek alınabilir ve bu model Türkiye şartlarına uygun şekilde geliştirilebilir.

Ayrıca Almanya, İngiltere, Danimarka, Hollanda, Taiwan ve A.B.D.'deki Mesleki ve Teknik Eğitimde benzeri Kalite Güvence sistemlerini de incelemek Türkiye için oluşturulacak ve geliştirilecek kalite güvence sistemi için önemli faydalar sağlayacaktır.

YÖK-ISOV, ENDÜSTRİYEL KURULUŞLAR VE MESLEK YÜKSEKOKULLARI ARASINDA HIZLI VE ETKİN İLETİŞİMİN SAĞLANMASI:

Bilginin üretilmesinin yanında hızlı ve güvenilir şekilde iletimi de önemlidir. YÖK-ISOV işbirliği protokolünün başarılı olması için en önemli etkenlerden biriside hızlı ve etkin bilgi iletişiminin sağlanmasıdır. Günümüzde en hızlı ve etkin iletişim bilgisayar ile sağlanmaktadır. Bu nedenle YÖK-ISOV işbirliği protokolünün tüm tarafları asgari teknik

özelliklere sahip bilgisayar, modem ve internet bağlantısına sahip olmalı ve birbiri ile İnternet ortamında haberleşmelidir.
Böylece çok kısa zamanda dikey ve yatay şekilde tüm birimler arasında hızlı iletişim ağı kurulmuş olacaktır. Ankara Üniversitesi-Çankırı Meslek Yüksekokulu ISOV ile işbirliği içerisinde böyle bir alt yapıyı oluşturmuştur. ISOV Genel Merkezi Proje Meslek Yüksekokulları ISOV'a bağlı Endüstriyel Kuruluşlar bu ağ'a bağlanmak için gerekli alt yapıya kavuşmaları, durumunda (birçok kurum bu alt yapıya sahiptir.) sistem çalışır hale getirilecektir.

BÜTÇE:

Böyle önemli ve büyük projeler için mutlaka sağlam ve düzenli bir maddi kaynak (bütçe) oluşturulmalıdır.
YÖK-ISOV işbirliği protokolünde bu konuda eksiklikler görülmektedir. Projenin başarılı olması için YÖK-Dünya Bankası Endüstriyel Eğitim Proje Başkanlığının ve anlaşmanın diğer taraflarının katkıları ile bütçe oluşturulmalı ve konudaki zaafiyetler giderilmelidir.
Mümkün olduğu takdirde Dünya Bankasından, Avrupa Topluluğundan vb kuruluşlardan 5 yıl sürecek bir çalışma için gerekli miktarda kredi bulunmalıdır. Kalite güvence sistemi ve program geliştirme çalışmaları zaman içinde tüm Türkiye'deki Meslek Yüksekokullarını ve endüstriyel kuruluşları içine alacak şekilde geliştirilmelidir. Sağlam ve düzenli bütçesi olmayan projelerin başarı şansı olmayacağından bütçe konusu mutlaka netliğe kavuşturulmalıdır.

SONUÇ:

YÖK-Dünya Bankası Endüstriyel Eğitim Proje Başkanlığının işbirliği protokolü Mesleki ve Teknik Eğitimde Üniversitesi Endüstri ilişkilerini geliştirmek için önemli bir fırsattır. Başlangıç çok iyi olmuştur. Bundan sonraki çalışmaların başarılı olması için yetişmiş teknik ve idari kadroların temini, Proje Meslek Yüksekokulları - Proje Başkanlığı, İstanbul Sanayi Odası Vakfı ve Endüstriyel kuruluşlar arasında İnternet üzerinden hızlı bir iletişim ağının kurulması ve sağlam güvenilir bütçenin en kısa sürede oluşturulması gerekmektedir. Yurt dışında bu konuda çalışan SQA, (İSKOÇYA) ile ilişkiye geçilerek başlangıç için bu kurumdan yararlanılmasının çok faydalı olacağına inanıyorum.

KAYNAKLAR:

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YÖK-ISOV İşbirliği Protokolü ile ilgili ayrıntılı bilgiler aşağıdaki adresten temin edilebilir.

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21. YÜZYILA DOĞRU AVRUPA BİRLİĞİ'NDE MESLEKİ-TEKNİK EĞİTİME YENİ YAKLAŞIMLAR VE TÜRKİYE İÇİN BİR UYUM ANALİZİ

NEW APPROACHES TO VOCATIONAL EDUCATION AND TRAINING TOWARDS 21th CENTURY IN EUROPEAN COMMUNITY AND A COMPATIBILITY ANALYSIS FOR TÜRKİYE

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İZMİR

ÖZET

Dünya'da 1990'lı yılların ekonomik gelişimine uygun düşen tanımlamaların başında; "hızlı bir dönüşüm, belirsizlik, globalleşme ve yeniden yapılanma" kavramları gelmektedir. Hızlı dönüşüm; ancak enformasyon ve bilgi çağının gereklerine cevap verebilen sosyo-ekonomik sistemleri gelişimin bir parçası haline getirmektedir. Sosyo-ekonomik sistemlerin gelişimin bir parçası haline gelmeleri ise, en önemli temel yapı taşları olan eğitim sistemlerini çağın gereklerine uydurmaları ile mümkün olacaktır. Gerek örgün gerekse mesleki-teknik eğitim (MTE) olsun, eğitim sistemlerinin bilginin doğru kullanılmasına yapacakları katkı, emek piyasalarında ve üretim sistemlerinde toplam kalite-verimlilik çizgisinin yakalanması açısından büyük önem taşımaktadır.

Teknoloji ne denli ilerlerse ilerlesin, sonuçta bilgiyi teknolojiye ve teknolojiyi de üretimin emrine verecek olan çalışan işgücü olacaktır. Bu aşamada gündeme "vasıf" kavramı gelmektedir. Üretimde kullanılan insangücünün vasıfı ne kadar bilgi-teknoloji/yoğun olursa, bir işin yapılabilmesi için gerekli faktörler de o denli doğru ve ekonomik olarak gerçekleşecektir. İçinde bulunduğumuz ekonomik yapılanma, üretimde

teknoloji mi yoğun olmalı yoksa emek mi yoğun olmalı tartışmalarından daha önemli bir kavramı ortaya çıkarmıştır. Bir ülkenin işgücü, kazanabileceği vasfın azamisini kazanmak durumundadır. Nitekim ülkemizde hızla artan genç nüfusun getirdiği rekabet, hemen her kademede "işi doğru ve eksiksiz yapma" seviyesini iyileştirmeye başlamıştır.

Özellikle örgün eğitime karşı olan yoğun talep, gereksiz yığılmaları da beraberinde getirmektedir. Bu durum, gelişmekte olan ülkemiz ekonomisinin "vasıflı MTE almış insangücüne" olan talebini perdelemektedir. Avrupa Birliği (AB), MTE'yi 2000'li yılların en büyük istihdam aracı olarak kullanmaya hazırlanırken, uzun dönemli işsizliği de yine bu yöntemle yenmeyi deneyecektir. Bu çalışmada, AB'nin MTE'ye bakış açısı Türkiye için bir uyum analizi oluşturma yolunda incelenmiştir.

1. 1990'LI YILLARDA AVRUPA BİRLİĞİ'NDE MESLEKİ-TEKNİK EĞİTİME YÖNELİK YENİ YAKLAŞIMLAR VE 2000'Lİ YILLAR İÇİN OLUŞTURULAN POLİTİKALAR

Avrupa Birliği'nde (AB), 1990'lı yıllara hakim olan görüntü, Mesleki Teknik Eğitim (MTE) için orta dönemli planlar ve yeni düşünceler hazırlamaktır. Bu görüşlerden bir tanesi, MTE'yi sadece devlet tekeline bırakmayıp, özel sektörü de bu konunun içine çekebilmektir. MTE ders programları yaratıcı ve günün koşullarına uygun olarak "esnek" özellik taşımalıdır. "1990'lı yıllara hakim olan görüşlerin önemlilerinden bir tanesi de, sosyo-ekonomik bir bütünlük içinde sadece profesyonel kalifikasyonların ve teknik vasıfların öneminin artmadığı, bunlarla beraber yönetsel kabiliyetlerin ve girişimcilik ruhunun öneminin de artarak devam ettiği olmuştur"(TASK FORCE HUMAN RESOURCES, EDUCATION,TRAINING AND YOUTH CENTER SERVICE;1992). Avrupa, tek bir rekabet alanı haline gelmiş ve bu alanda üretim, dağıtım ve vasıfların coğrafi akışı sağlanmıştır. Endüstri ilişkilerinde, bürokratik yapılanma terk edilirken, 1990'ların ve 2000'li yılların en önemli olgularından "kalite kontrolü" kavramı, üretime katılan en küçük birimlere kadar sorumluluk verilerek genişletilmeye çalışılmaktadır. Bu da, geleneksel kalifikasyonların iletişim teknolojileri kalifikasyonları ile uyum içinde olması ile gerçekleşecektir.

Mesleki-Teknik Eğitim ile ilgili ortaya çıkan teknik veya sosyal içerikli sorunların ortadan kalkması için öncelikle konu ile ilgili tüm taraflar arasında gerçek bir koordinasyon ve uzlaşmaya ihtiyaç bulunmaktadır. Bölgelerarası farklılıkların giderilmesinde ve ekonomik rekabetin canlandırılmasında da bu uyum önem taşımaktadır. Bu hedefler doğrultusunda AB'nin yeni amaçları da şu şekilde oluşmuştur"(TASK FORCE HUMAN RESOURCES, EDUCATION,TRAINING AND YOUTH CENTER SERVICE;1992):

- MTE yatırımlarının artması,

- MTE kalitesinin arttırılması,

- Sosyal tarafların MTE'ye katılımlarının mümkün olan en üst düzeye çıkartılması ve ders programlarının* oluşmasında yerel ve bölgesel önceliklere ağırlık verilmesi.

Bir başka önemli hedef, AB bütününde işgücünün eğitimi ve MTE'ye katılma oranlarının artırılmasıdır. Bu durum AB'nin kuzeyli zengin üyelerinden çok, güneyli fakir üyelerine yönelik bir yaklaşımdır. "Topluluk İşgücü Araştırmasının bugüne kadar yapılan en güvenilirlerinden biri olan olarak değerlendirilen 1991 tarihli araştırması, Almanya, Danimarka ve Benelux ülkelerinde 25 yaş üzerindeki işgücünün %20'sinin üniversite veya üniversiteye eşit derecede bir eğitimi tamamladığını göstermektedir. Buna karşılık, Portekiz ve İtalya'da aynı oran %10'nun altında, İspanya'da %15'in altında, ve Yunanistan ve İrlanda'da %20'nin altında seyretmektedir" (COMMISSION OF THE EUROPEAN COMMUNITIES-DIRECTORATE GENERALE EMPLOYMENT, INDUSTRIAL RELATIONS AND SOCIAL AFFAIRS;1993). 1994 yılında yapılan bir diğer önemli araştırma ise, geliştirilen proje ve politikalara ve devreye sokulan onlarca MTE programına rağmen AB'de hala yeterli bir MTE eğitiminin sağlanamadığını göstermektedir. Bu çalışmaya, ağır sanayi, imalat ve perakende ticaret sektörlerinden o zamanki üye sayısı ile 12 ülke çapında (AT-12) toplam 9.3 milyon işçi katılmıştır.

"Buna göre, bu işçiler arasında "iş arayanların" %52'sinde herhangi bir MTE vasıfı bulunmamakta, ancak "iş bulmuş olanların" %28'inde MTE vasıflarının bulunduğu anlaşılmıştır. Bu da, vasıflı işçiler arasında bile son derece büyük bir iş bulma rekabetinin yaşandığını göstermektedir.

Yine bu çalışmaya katılan işçilerden 4 hafta ve üzerinde işsiz durumda bulunanların AT-12 bazında oranları, %30'a çok yakındır" (EUROPEAN COMMISSION-DIRECTORATE GENERAL FOR ECONOMIC AND FINANCIAL AFFAIRS;1995).

1990'lı yıllara hakim olan görüşler arasında, "iş bulma kurumları ile mesleki rehberlik veren kurum ve otoriteler arasındaki bağı geliştirmek, eğitimcilerin eğitiminde kaliteyi yükseltmek, küçük ve orta ölçekli işletmelerin yaşamlarını devam ettirebilmeleri için yöneticilere dönük MTE hizmetlerini artırmak ve birden fazla yabancı dil eğitimini teşvik etmek ön sıralarda yer almaktadır" (EUROPEAN COMMISSION; 27 July 1994). Özellikle son dönemde çalışma hayatına yeni giren veya belirli bir süre kariyere sahip olan işgücünde, "eğitim" olgusunun algılanmasında da gözle görülür değişiklikler yaşanmaktadır. "İşverenler, MTE öğrencileri ve eğitim bilimciler, teknolojik değişimin yenilediği iş ortamına ayak uydurabilmek için iletişim vasıfları, kişisel etkinlik gösterme ve sosyal ortama uyma gibi kişisel yeterlilik olgularına gittikçe artan bir dikkatle eğilmektedirler"(JOHNSTON;1989). "Yüzyılın sonuna kadar MTE ile ilgili hipotezlerin içinde, AB'nin yaşlanan demografik yapısının ileride yol açacağı belirsizliklerin önüne geçilmesi zorunluluğu, hizmet sektörünün hızla değişen yapısına uyum sağlayacak bir eğitim yapısı ve Japonya ve ABD'den gelen rekabet baskılarına karşı geliştirilecek yeni "iç uyumlaştırma" çabaları sayılabilir"(PIEHL;1989).

2. TÜRKİYE'NİN YENİ BİR YAPILANMA AŞAMASINDA DİKKATE ALMASI GEREKEN KRİTERLER

Avrupa Birliği'nde MTE'nin yapılanması ve uygulanışı ile ilgili verilerin ışığında ve özellikle MTE'nin uzun dönemli işsizlikle başa çıkılması için kullanılan en etkili araç haline gelmesi, bu sistemin Türkiye'de uygulanan şekliyle en azından bir yenilenme ihtiyacı içinde olduğunu göstermektedir. AB, MTE'yi uzun dönemde ortaya çıkabilecek sosyo-ekonomik sorunların önüne geçilmesi amacına ulaşmada kullanılacak bir araç olarak algılamaktadır. Türkiye'nin ise sadece MTE'yi değil, örgün eğitimi toplum olarak nasıl algıladığı önem kazanmaktadır. Eğitim sadece eğitimli birey yetiştirme boyutundan başka doğrudan işgücü piyasasına ve istihdama etki eden ekonomik bir olgu olarak da görülmelidir. Bu ise, eğitimin kantitatif yanından çok kalitatif yanının geliştirilmesi ile yakından ilişkilidir. Ekonomik kalkınmada en büyük itici güçlerden biri olması gereken MTE'nin yeni bir yapıya kavuşturulabilmesi için yoğun AR-GE çalışmaları ve iş hayatının yeterli düzeyde katılımı şarttır. Devletin bu denli ciddi bir yapılanma gereğine tek başına cevap vermesi çok zor ve yersizdir. MTE sadece bir eğitim sistemi olarak değil, işgücü piyasa dinamiklerini harekete geçirici ve yapısı gereği onları denetleyici bir güç olarak algılanmalıdır. MTE'nin düzenli bir yapıya sahip olmasında hiç kuşkusuz finansal yapılanmasının da önemli bir rolü olacaktır. Dolayısıyla devlet, sanayi ve eğitim kurumlarınca oluşturulacak bir üçlü saç ayağının MTE'nin yeniden yapılanmasında ortak çabalarına ihtiyaç duyulacaktır.

AB'de süregelen ve sosyal tarafların MTE'nin sürdürülmesinde gösterdiği gayretler, ortak programlar ve uygulamalar bu konuda Türkiye'nin içinde bulunduğu büyük eksikliği görmesi açısından önem taşımaktadır. Bu konuda sosyal tarafların ciddi ve yapıcı bir işbirliğine dayalı kurumlaşmanın gereği ve bu kurumlaşmaya hukuki sınırlar içinde yaptırım gücü kazandırılması düşünülmelidir.

Böylece MTE gibi hayati bir konuda tarafların kendilerini "gönüllü" olmaktan çok "zorunlu" olarak hissetmeleri sağlanmalıdır.MTE'de yeni bir yapılanmayı gerçekleştirmek için, değişimin hizmet edeceği amaçları belirlemek ve sistemi günün koşullarına uygun somut gerçeklerle güçlendirmek gerekmektedir. Türkiye, MTE ile ilgili yeni bir yapılanma içine girmeden önce aşağıdaki kriterleri mutlaka gözden geçirmek durumundadır:

1. Türkiye'nin global bir pazarda rekabet edebilmek için dünya kalite standartlarına uygun bir işgücüne sahip olması zorunluluğu vardır,

2. Bugün için işgücü pazarlarına hakim olan gerçek, yeterli bir MTE sağlanamadığı takdirde, eğitimsiz işgücü→düşük vasıflar→düşük ücretler→düşük yaşama standartları döngüsünün kaçınılmaz olacağıdır,

3. Yüksek vasıflı işgücü; kaynakları (zaman, sermaye, hammadde, işyeri ve çalışma grubu), kişilerarası ilişkileri (takım çalışması, diğerlerine öğretebilme, tüketiciyi koruma, yönlendirebilme, görüşme yapabilme, sosyal olma) bilgiyi (veri alış verişi, yazılı doküman hazırlayabilme,

bilgi sürecinde ve üretimde bilgisayar kullanabilme), sistemleri (sosyal, örgütsel ve teknolojik sistemleri kavrayabilme yetisi, performans değerlendirmesini kavrayabilme ve performansını kontrol altında tutabilme) ve teknolojiyi (doğru yerde doğru aleti kullanabilme, özel görevlendirmelerde teknolojiden yararlanabilme, gelişen teknolojiyi bir tehdit olarak algılamayıp uyum sağlayabilme yetisi) verimli bir şekilde kullanabilecektir (HULL:1994).

4. Yüksek vasıflı işgücü; temel vasıflara (okuma-yazma, fizik ve matematik, konuşabilme ve dinleyebilme), düşünceye dayalı vasıflara (aktif düşünebilme, kararlara katılmada öneri getirebilme, problem çözme, sonuç çıkartabilme) ve kişisel kaliteye (kişisel sorumluluk, özgüven, sosyal olabilme, kendini yönetebilme) sahip olmalıdır (HULL:1994).

5. Potansiyel işgücünün büyük bir çoğunluğun un Üniversite eğitimi altına beklenmese de, yine de bu işgücünün elden geldiğince yüksek standartlı bir MTE alması gerekmektedir.

6. Burada diğer önemli bir nokta, mevcut işgücüne ve özellikle gelir dağılımında düşük gelirli grup içinde yer alan öğrencilere karşı "yüksek standartlı bir eğitim için motive edilemezler ve verilen yüksek standartlı eğitimi zor algılaylabilirler" gibi çok yanlış iki yaklaşımdan kaçınılması gerekmektedir.

7. Global ortamda rekabet edebilme Türk istihdam piyasası için hala tartışması devam eden en az bir yabancı dil bilme gereğini ortaya koymaktadır.

8. Sistemin temeline inilecek olunursa, temel yapı taşları arasında yer alan "ders programlarının da" değişen işgücü pazarı arz ve talep yapılarına cevap verecek bir esneklikte olması gerekmektedir. Ticari ve endüstriyel hayatın belirlemiş olduğu iş standartlarına uygun bir program takip edilmesi bu noktada önem kazanmaktadır. Çoğu kez MTE almış mezun öğrencilerin özellikle teknolojik standartları karşılamalarında büyük aksaklıklar gözlenmektedir. Ders programları düzenlenirken dikkate alınması gereken bir diğer nokta, bugünkü meslek dalları ile ileride gündeme gelebilecek yeni meslek dallarına yönelik konulara da yer verilmesi gerektiğidir.

9. Ders programları ile ilgili düzenlemeler yapılırken, özellikle Alman sisteminde dikkati çeken "yerel özelliklere ağırlık verilmesi ve bölgesel özeliklerin de dikkate alınarak ders programlarının düzenlenmesi" düşünülebilir. Hiç kuşkusuz ders programlarının belli bir "ulusal vasıf standartı" getirmesi beklenmelidir. Bir diğer önemli nokta, bölgesel ve yerel MTE ofislerinin kurularak, bu ofislerin resmi eğitim danışmanlarıyla donatılması ve bölgenin coğrafi, kültürel ve sosyo-ekonomik profilinin çıkarılarak, bu bölgelere uygun "teknoloji/yoğun pilot eğitim birimleri " kurulmasıdır.

10. Ders programlarında dikkat edilmesi gereken bir diğer nokta, örnekleme çalışmalarının "işe dönük" örneklemelerle güçlendirilmesidir.

11.Hiç kuşkusuz MTE'ye yönelik kaynakların geliştirilip yeniden bir dağıtıma tabi tutulması da önem taşımaktadır. Bu noktada yerel ve bölgesel kaynakları MTE'ye yönlendirecek bir yapılanmanın kurulup, bu yapının sürekli bir takip ve araştırma içinde bulunması MTE sisteminin kendi kendini beslemesi açısından gereklidir.

12.Bugün artık MTE'nin sosyal tarafların katkısı olmadan yürütülmesi imkansız olarak algılanmalıdır. Bu noktada sosyal tarafların her birinin MTE politikalarına yapacakları katkı açık olarak belirlenmeli ve her taraf uygulamada kendisine düşen payı bilmelidir. Özellikle sendikaların MTE'ye doğrudan katkı yapmaları kendilerinin de faydasınadır. Böylece gelecekte sahip olacakları işgücü yapıları, yüksek vasıflı olmaları itibariyle sendikaların pazarlık paylarını kuvvetlendirebilecektir. Aynı durum gelecekte özellikle ülkemizde yüksek vasıflı işgücü talep eden işverenlerin de MTE içinde gerekli rollerini almasını gerektirmektedir."İşverenler bugün için gözlemlenen eğitime kısa-süreli kurslarla destek olma ve kendi işlerine katkı yapacak konularda kısa-süreli yoğun kursları tercih etme alışkanlıklarını terk etmek durumundadırlar"(GERME;1990). MTE'ye sistem içinde uzun süreli destek vermek işverenin de uzun dönemli perspektifleri açısından gereklidir. Sosyal tarafların böyle bir yapılanma içinde yer almaları "şifaen" değil örgüt yapısı çizilmiş bir model içinde yer almalıdır.

13. Türkiye için önerilecek yeni bir yapılanmanın içinde belki de en yeni ve en zor önerilerden bir tanesi de MTE ders programlarının AB ders programları ile uyumlu bir yapıya kavuşturulması önerisi olacaktır. Nitekim AB'nin sonuç aldığı bir çok "uluslararası" özellik taşıyan MTE programından Türk öğrencilerinin de yararlanması, öğrencilerimize gerek uluslararası bir perspektif kazandırması, gerek yabancı dillerini pratik imkanı ve gerekse AR+GE harcamalarında ve teknoloji yoğun ders programlarında bizden daha ileride olan ülkelerin eğitim-üretim-istihdam üçgeninde öğrencilerine verdikleri en yeni bilgilerin öğrenilmesi açısından hayatidir. Ancak bu noktada MTE kurumlarımızın proje üretmesi ve AB ile Türkiye arasında gerçekleşen ortaklık konseyi toplantılarının gündemine her türlü uluslararası eğitim programlarından karşılıklı yararlanma ilkeleri girmelidir.

14. MTE'de yeniden yapılanma sürecinde önerilen eğitim kurumlarının yapılanması içinde "çevrelerinde iş hayatının ihtiyaçlarını sürekli olarak izleme ve yorumlama, işletmelerle işbirliği yaparak aranılan beceri düzeyini belirleme ve belirlenen beceri düzeyinde eleman yetiştirecek şekilde program geliştirmek" (DOĞAN;1994) temel unsurlar olarak yer almalıdır.

15. MTE'nin yeniden yapılanmasında belki de AB örneğinden yararlanılabilecek en önemli model, içinde birden fazla kurumun olacağı ve bu kuruluşlardan en az bir tanesinin mutlaka bir eğitim kurumu (MTE kurumu veya Üniversite) olacağı "esnek modüler sistem" olarak da tanımlayabileceğimiz bir yapının devlet tarafından veya mümkünse AB'nin MTE programlarından destek alarak (Leonardo veya Petra gibi) belirli bir süre için belirli bir mesleki konuda en yeni teknolojilerin kullanılması şartıyla yine belirli bir süre için MTE eğitim verip bu eğitimin sonucunun doğrudan üretime aktarılması modeli olmalıdır. Sözkonusu modele en son örnek olarak Portekiz'den Yeni Lizbon Üniversitesi'nin yapmış olduğu bu tür bir modüler program verilebilir. "Proje; doğal kaynakların kullanılmasına ilişkin öğrencilere mesleki ve teknik düzeyde bilgi vermeyi amaçlamış ve Yeni Lizbon Üniversitesi, Çeşitli Özel işletmelerin danışmanları ve doğal kaynakların kullanılması konusunda çalışmış diğer bazı eğitmenlerin katılımıyla ülkenin sosyal gelişimine katkı amacıyla düzenlenmiştir. Proje grubu PETRA programından destek almış ve

projenin temel yeniliği, projenin gerçekleştirildiği bölgenin işverenlerinin istihdam ihtiyaçları belirlendikten sonra bu ihtiyaçlar doğrultusunda proje ders programının şekillendirilmesi olmuştur. Projeye Portekiz hükümeti de belirli oranda finansal destek sağlamıştır"(AMBROSİO,1996). Türkiye, bu tür esnek sistemlerin harekete geçmesini ve özellikle gelişmemiş bölgelerimiz için bu tür bir sistemin harekete geçirilmesinden sorumlu "hareketli eğitim birimleri" kurmalıdır. Yukarıdaki kriterler, hiç kuşkusuz gelecekte Türkiye'nin MTE sistemini yenilerken gözardı etmemesi gereken kriterlerdir. Mesleki-Teknik Eğitimi, başlıbaşına bir sosyo-ekonomik politika olarak yorumlayan AB ve diğer sanayileşmiş ülke gruplaşmalarını göz önünde tuttuğumuzda, Türkiye'nin MTE'ye yapacağı yatırımların önemi bir kat daha artmaktadır.

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AVRUPA BİRLİĞİ'NİN MESLEKİ TEKNİK EĞİTİMDE DIŞA AÇILMA POLİTİKASI ve TÜRKİYE

EUROPEAN UNION'S EXPANDING POLICY ON VOCATIONAL TECHNOCAL EDUCATION AND TÜRKİYE

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ÖZET

Mesleki teknik eğitim alanında AB'nin öncelik verdiği ülkeler arasında, Merkezi ve Doğu Avrupa Ülkeleri, Eski Sovyetler Birliği'nden Bağımsızlığını Kazanan Ülkeler, ABD, Kanada, Japonya ve bazı Akdeniz ülkeleri bulunmaktadır. Eğitim politikasını büyük ölçüde 'Socrates, Leonardo da Vinci, Youth for Europe, Phare, Tacıs ve Tempus' programları çerçevesinde yürüten AB'nin, eğitim alanına ilişkin sözkonusu programları Birlik düzeyinde ve uluslararası kapsamda başarıyla uygulanmaktadır.

AB'nin ilişkilerini teknik seviyede tuttuğu üçüncü ülkelerle yürütmekte olduğu işbirliği ve destek faaliyetlerinin, bundan yararlanan ülkelerin çoğu açısından büyük bir kazanım olduğu kuşkusuzdur. Türkiye'nin de, entegrasyon sürecinde ileri bir düzeyi ifade ettiğine inanmak istediğimiz 'gümrük birliği' çerçevesinde, özellikle eğitim ve mesleki teknik eğitime yönelik AB programlarına dahil edilmesi gerektiği makalede vurgulanmaktadır.

Giriş

Maastricht Antlaşması'ndan sonra aktüel hale gelen AB'nin sosyal boyutu ve Avrupa sosyal modelinin kapsama alanını, sadece AB'nin siyasi sınırları biçimlendirmemektedir. Dışa açık bir sistem öngören bu modelde, AB'nin diğer ülkeler, entegrasyonlar ve uluslararası kuruluşlarla ilişkilerinde izlenecek sosyal politikanın önemi giderek artmaktadır. Bu nedenle, eğitime yönelik çalışmalar da ağırlık kazanmaktadır.

Ekonomik entegrasyon sürecine bağlı olarak gelişeceği düşüncesiyle Roma Antlaşması'nda ihmal edilen sosyal boyut, Maastricht Antlaşması ile ilk kez ciddi olarak ele alınmıştır. Bu bağlamda eğitim, mesleki teknik eğitim ve yüksek öğrenim gibi bazı alanlarda büyük önem kazanan sosyal politikaların, AB'nin genişleme sürecine öncülük yapabileceği ve bir anlamda ekonomik bütünleşmeye aday ülkelerin hazırlıklarının tamamlanmasına katkıda bulunabileceği öngörülerek, AB'nin bu alanda yoğunlaşması sağlanmıştır.

1. Genel Eğilimler

Bilindiği gibi, Avrupa sosyal modeli dışa açık bir sistemdir. AB'nin dış ülkeler ve uluslararası kuruluşlarla ilişkilerinde sosyal politikanın önemi çeşitli sebeplerle artmaktadır. Özellikle, eğitim ve öğretim alanına ilişkin AB politikası, üçüncü ülkelere doğru giderek açılmaktadır.[1] Kuşkusuz bu gelişmeler, AB'nin geleceği için insan kaynakları ve vasıflı işgücüne yönelik akılcı bir yatırım olarak değerlendirilebilir.

AB'nin dahili pazarıyla bütünleşme sürecindeki, Merkezi ve Doğu Avrupa ortak ülkelerinin hazırlıklarına ilişkin düzenlenmiş olan Beyaz Rapor'da Komisyon, sosyal politika ve bu alandaki çalışmalar için bir bölüm ayırmıştır. Aynı zamanda, PHARE programı (Programme of Community Aid for Central and Eastern European Countries-Merkezi ve Doğu Avrupa Ülkeleri İçin Topluluk Yardım Programı) kapsamında yürütülen çalışmalar ve pazar ekonomilerine geçişin yol açtığı sosyal problemlere karşı bu ülkelerin desteklenmesini hedefleyen Avrupa anlaşmaları, bu alanda izlenen politika hakkında fikir vermektedir. Hatta,

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[1] Nusret Ekin; Küresel Bilgi Çağında Eğitim-Verimlilik-İstihdam; İTO Yayın no: 1997/43; İstanbul 1997; s. 99.

Uzak Doğu'da Japonya ile sosyal sorunlar ve istihdam alanında, uzmanların değişimi, ortak seminerler ve benzeri çalışmaları içeren iki taraflı işbirliğinin sürdürülmesi ve genişletilmesi öngörülmektedir. Komisyon bu tür programların diğer sanayileşmiş ülkelerle yürütülmesi imkanlarını da araştırmaktadır. Bu açılma girişimlerine ek olarak, Komisyon'un çok taraflı faaliyetleri çerçevesinde, Birleşmiş Milletler (BM) Sosyal Gelişme Dünya Zirvesi (Kopenhagen) ve BM Dördüncü Kadın Konferansı'na (Peking) katılımı, dışa açılmanın boyutları ve önemine ilişkin işaretler taşımaktadır.

Avrupa Birliği Komisyonu esas itibariyle G-7, Avrupa Konseyi, OECD (Organization for Economic Cooperation and Development-Ekonomik İşbirliği ve Kalkınma Örgütü), WTO (World Trade Organization-Dünya Ticaret Örgütü), WHO (World Health Organization-Dünya Sağlık Örgütü), ILO (International Labour Organization-Uluslararası Çalışma Örgütü) ve UN (United Nations-Birleşmiş Milletler) gibi uluslararası organizasyonların üstlendikleri rolün önemini kabul etmektedir. Bu nedenle, bu kuruluşlarla bağlantıların yeniden güçlendirilmesi ve çok taraflı bir işbirliği geliştirilmesine yönelik çalışmalar yapmaktadır. Sosyal gelişmenin ancak ekonomik gelişme paralelinde sağlanabileceği düşüncesini taşıyan Komisyon, WTO ile ilişkilerinde, ticaret ve temel sosyal hakların korunması arasında, tedrici, esnek ve çok taraflı bir yaklaşım önermektedir.[2]

Leonardo Da Vinci, Socrates ve Youth for Europe programları çerçevesinde, 1996 yılında yürütülen uygulama çalışmalarında önemli gelişmeler sağlanması, bu programların yaygınlaştırılmasını gündeme getirmiştir. Esasen, gelecekte Malta, Güney Kıbrıs ve Merkezi Avrupa'daki AB'ne ortak ülkelere de açılımı sağlayacak özel düzenlemeler programlarda yer almıştır.[3] Buna karşılık, 1993 yılından itibaren Tek Pazar'ın etkisine girilmesi, Maastricht Antlaşması ve yeni siyasi dönüşümler, Merkezi ve Doğu Avrupa ülkelerinde 1989 yılından beri 'Avrupalılık fikri' yetişkinlerin eğitimi konusunda yeni bir geçerlilik kazanmıştır.[4]

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[2] European Commission; Community Social Policy Current Status I January 1996; Luxembourg 1996; p. 326.

[3] European Commission; General Report on the Activities of the European Union 1996; Luxembourg 1997; p. 111.

[4] Volker Lenhart; "Unesco's Significance for Europe-Oriented German Educational Research"; Education, Vol. 54, Institute for Scienstific Co-operation, Tubingen 1996; p. 18.

1997 yılına değin Komisyon, Merkezi Avrupa'nın AB'ne ortak ülkelerinde Topluluk programlarının uygulanabilirlik koşullarını, bu ülkelerin her biri için teknik seviyede tutmuştur. Katılım koşullarının oluşturulmasını düzenleyen Avrupa Anlaşması ile programların kapsamına alınan Bulgaristan, Macaristan, Polonya, Çek Cumhuriyeti, Romanya ve Slovakya bu çerçevede değerlendirilmektedir. Bu yöndeki görüşmeler Güney Kıbrıs ve Malta ile de yapılmaktadır. Buna paralel olarak, Baltık Devletleri ve Slovenya açısından, programların katılıma açılması için gerekli bir dizi hazırlık önlemlerinin belirlenmesi amacıyla başlangıç diyalogları sürdürülmektedir.

1.1. Merkezi ve Doğu Avrupa Ülkelerine Özel İlgi ve Avrupa Eğitim Vakfı

Yüksek öğrenimde Avrupa ötesi işbirliği programının II. aşaması olan Tempus II (Trans-European Mobility Scheme for Universty Studies-Üniversite Öğrenimi İçin Avrupa Ötesi Dolaşım) programına, eski Sovyetler Birliği Bağımsız Devletleri içinde elverişli koşulları taşıyan Polonya, Macaristan, Bulgaristan, Romanya, Çek ve Slovak Cumhuriyetleri, Arnavutluk, Estonya, Latviya, Litvanya ve Slovenya katılım için Komisyon tarafından davet edilmiştir.[5] Bunun üzerine, 21 Kasım 1996 tarihinde Konsey, Tempus II programı kapsamına, Merkezi Doğu Avrupa ülkeleri ve eski Sovyetler Birliği'nin Bağımsız Devletleri ile Moğolistan'ın, 1998-2000 yılları arasında iki yıl süre ile dahil edilmesini kararlaştırmıştır.[6]

Eski Sovyetler Birliği Bağımsız Devletleri, Merkezi ve Doğu Avrupa ülkeleriyle Moğolistan'ın, mesleki eğitim sistemlerinin gelişmesine katkıda bulunmak amacıyla 7 Mayıs 1990 tarihinde Konsey tarafından kabul edilen bir tüzük (90/1360/EEC. OJ. L 131. 23.5.1990) ile kurulan 'Avrupa Eğitim Vakfı', mesleki eğitim alanında elverişli ülkeler ve Topluluk arasında etkin bir işbirliğini teşvik etmeyi özel bir hedef olarak belirlemiştir. Bu çerçevede sözkonusu Vakıf, Komisyon'un veya mesleki eğitim programlarından yararlandırılan ülkelerin isteği üzerine, bu ülkelere yardımı hedefleyen Topluluk politikaları gereği, belirlenen mesleki eğitim programlarını sözkonusu ülkelerde yürütmektedir. Tüzel kişiliğe sahip olan Vakıf, karşılıksız hizmet sunmaktadır.[7]

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[5] European Commission; Community Social Policy Current Status I January 1996; Luxembourg 1996; p. 329.

[6] European Commission; General Report on the Activities of the European Union 1996; Luxembourg 1997; p. 117.

Avrupa Eğitim Vakfı, Doğu Asya ile Merkezi ve Doğu Avrupa ülkelerinin ekonomik yeniden yapılanmaları için TACIS (Programme for Technical Assistance to the Independent State of the Former Soviet Union and Mongolia-Eski Sovyetler Birliği Bağımsız Devletleri ve Moğolistan'a Teknik Yardım Programı) ve PHARE programlarının bir parçası olarak mesleki eğitim ve yüksek öğrenime ilişkin tam AB faaliyetlerinin desteklenmesi ve koordinasyonunda önemli rol oynamaktadır.[8] Avrupa Eğitim Vakfı'nın kuruluşunun tamamlanması 1996 yılında gerçekleşmiştir. Vakıf Komisyon'a, Tempus programının yürütülmesinde teknik destek sağlamanın yanında, Eski Sovyetler Birliği Bağımsız Devletleri ve Merkezi Avrupa ülkelerinde 20 mesleki eğitim projesinin sorumluluğunu üstlenmiştir. Ayrıca 25 ortak ülkede, ulusal izleme merkezleri ağı oluşturmuştur.[9]

1.2. EFTA Ülkeleri ile Sorunsuz İlişkiler

AB ve EFTA (European Free Trade Association- Avrupa Serbest Ticaret Topluluğu) ülkeleri arasında 1973 yılından beri yürürlükte olan serbest ticaret anlaşması çerçevesinde sıkı ekonomik ilişkiler tesis edilmiştir. 2 Şubat 1988 tarihli Brüksel Ortak Bakanlar Kurulu deklarasyonunda belirlenen Avrupa Ekonomik Alanı hedefleri arasında; EFTA ülkelerini tek bir Avrupa Pazarı oluşumuna ortak etmek ve bu ülkelerin eğitim, öğretim, ar-ge, ulaştırma ve çevre alanlarındaki AB politika ve projelerine katılımlarını sağlamak bulunmaktadır.

EFTA ülkeleri Avrupa Standartlar Komitesi gibi organizasyonlar ve ESPRIT (AB Bilgi Teknolojileri Araştırma ve Geliştirme Programı), COMETT (Community Action Programme in Education and Training for Technology-Üniversiteler ve İşletmeler Arasında Teknoloji Eğitimi ve Öğretimi İşbirliği Topluluk Programı) gibi araştırma ve mesleki eğitim alanlarındaki programlara aktif olarak katılmaktadırlar.[10] 1 Ocak 1994 tarihinden itibaren insanlar, mallar, hizmetler ve sermaye EFTA üyesi ülkeler dahilinde serbest dolaşıma başlamıştır.[11]

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[7] European Commission; Community Social Policy Current Status I January 1996; Luxembourg 1996; p. 331.

[8] European Commission; Le Magazine for Education, Training and Youth; sayı 4; Luxembourg 1995; p. 12.

[9] European Commission; General Report on the Activities of the European Union 1996; Luxembourg 1997; p. 117.

1.3. ABD ve Kanada ile İşbirliği

AB ve ABD arasında mesleki eğitim ve yüksek öğrenim alanlarında işbirliği programı oluşturmayı hedefleyen bir Komisyon önerisi ile (COM. 95/120 OJ. C 231. 5.9.1995) Topluluk programları Atlantik'i aşan uluslararası bir boyut kazanmıştır. Öneri, mesleki eğitim ve yüksek öğrenimin her ikisini de kapsayan ve işletmeler, eğitim kuruluşları ve yüksek öğrenim kurumları arasında karşılıklı etkileşimin teşvik edilmesi amacıyla hazırlanmıştır. Öneri ile şu faaliyet türlerinin gerçekleştirilmesi öngörülmüştür:

-AB ve ABD'nin birlikte yürüteceği ortak projeler hazırlanması: Bu projeler mesleki eğitim veya yüksek öğrenim kurumları ya da bu ikisinin karışımından oluşabilir.

-Öğrenci değişimi için organizasyonların çerçevesinin geliştirilmesi; yenilikçi müfredatın ortak olarak geliştirilmesi ve mesleki eğitim ve yüksek öğrenimde Trans-Atlantik işbirliğinin niteliğini geliştirmeye yönelik, uzaktan öğrenim ve yeni teknolojilerin kullanımını içeren diğer yenilikçi projelerin desteklenmesi.

-Mesleki eğitim ve yüksek öğrenim alanlarında bilgi değişimi, öğrenci ve araştırmacılara Fulbright burslarının sağlanması ve programı destekleyecek teknik yardımlar gibi tamamlayıcı çalışmalar.[12] Sözkonusu öneri geliştirilerek, AB ve ABD arasında, yüksek öğrenim, eğitim ve mesleki eğitim alanlarında geniş işbirliği sağlayan ortak eylem planı 1995 Aralık ayında imzalanmıştır. AB-ABD işbirliği anlaşması çerçevesinde, yüksek öğrenim ve eğitimle ilgili dokuz proje 1996-1997 akademik yılında başlatılmıştır. Ocak 1997 itibariyle yeni projeler için çağrı yapılmıştır.[13]

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[10] TES-İŞ; Gümrük Birliğine Girerken Türkiye; Ankara 1995; s. 14.

[11] European Commission; Frontier-Free Europe; February 1994; Luxembourg; p.

[12] European Commission; Community Social Policy Current Status I January 1996; Luxembourg 1996; p. 334.

[13] European Commission; Le Magazine for Education, Training and Youth; sayı 7; Luxembourg 1997; p. 21.

Komisyon, aynı şekilde Kanada ile AB arasında mesleki eğitim ve yüksek öğrenim alanında işbirliği programının oluşturulmasını, bu çerçevede bir Konsey kararına hazırlık olarak önermiştir (COM 95/77. OJ. C 305. 16.11.1995).[14] Bu öneri 1995 yılında kabul edilerek, AB ile ABD ve Kanada arasında mesleki eğitim ve yüksek öğrenim alanında iki işbirliği programı kabul edilmiştir. 1996 yılı için bu çerçevede yüksek öğrenim alanında Avrupa Kredi Transfer Sistemi ile Atlantik ötesi akademik tanımanın geliştirilmesi ile ilgili 13 işbirliği projesi kabul edilmiştir[15]. ABD ve Kanada ile yapılan anlaşmalar kapsamında 1996 yılı içinde gerçekleştirilen ortak işbirliği projeleri için 1.7 milyon ECU ayrılmıştır.[16]

2. Türkiye'ye Soğuk Yaklaşım

Bu alanda dikkati çeken husus, AB'nin genel eğitim ve mesleki eğitime yönelik programlarının önemli bir bölümünün kuzeydeki ve güneydeki potansiyel üye aday ülkelere doğru genişletilmesine karşılık, Türkiye'nin büyük ölçüde bu programların dışında tutulmasıdır.[17] Bu olumsuz tutum, Komisyon'un 13 Mayıs 1996 tarihli Türkiye Cumhuriyeti'nin 'Leonardo Da Vinci, Socrates ve Youth for Europe' programlarından yararlanan ülkeler arasına alınması teklifiyle bir ölçüde hafifletilmiştir.[18] Ekonomik ve Sosyal Komite de, sözkonusu bu programlara Türk üniversitelerinin dahil edilmesini desteklemiştir.[19]

AB-Türkiye Ortak Danışma Komitesi'nin 12 Haziran 1997 tarihli toplantısında kabul ettiği, endüstriyel KOBİ'ler ve meslek eğitimi konusundaki kararında; gümrük birliği bağlamında Türkiye'nin, EFTA ülkelerine, Orta ve Doğu Avrupa ülkelerine, Kıbrıs ve Malta'ya açık olan programlardan dışlanamayacağı gözönüne alınarak, mesleki eğitim alanında yeni bir yaklaşım öngörülmüştür. Bu çerçevede, Türkiye'nin 1998 yılı projeleri için Leonardo, Socrates ve Avrupa için Gençlik programlarına dahil edilmesinin önemini vurgulayan Ortak Komite, Avrupa Parlamentosu ve Konsey'e bu konuya ilişkin Komisyon önerisinin hızla kabul edilmesinin sağlanması çağrısında bulunmuştur. Mesleki ve teknik eğitim alanındaki bu işbirliğinin aynı zamanda, diplomalar, meslek standartları ve belgelerin geçerlilik koşullarının belirlenmesi konusunda yeni fırsatlar oluşturabileceği ifade edilmiştir.[20]

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[14] European Commission; Community Social Policy Current Status I January 1996; Luxembourg 1996; p. 336.

[15] European Commission; Le Magazine for Education, Training and Youth; sayı 7; Luxembourg 1997; p. 23.

[16] European Commission; General Report on the Activities of the European Union 1996; Luxembourg 1997; p. 117.

[17] Nusret Ekin; Küresel Bilgi Çağında Eğitim-Verimlilik-İstihdam; İTO Yayın no: 1997/43; İstanbul 1997; s. 100.

[18] European Commission; General Report on the Activities of the European Union 1996; Luxembourg 1997; p. 117.

[19] Avrupa Komisyonu Türkiye Temsilciliği; Güncel Avrupa; sayı 3-4; Mart-Mayıs 1997; Ankara; s. 33.

Avrupa Komisyonu, 15 Temmuz 1997 tarihinde yayınladığı bir basın bildirisi ile AB-Türkiye ilişkilerini, 31 Aralık 1995 tarihinde yürürlüğe giren gümrük birliğinin ötesine taşımayı amaçlayan bir dizi önlem açıklamıştır. AB Dışişleri Bakanlarının bu konudaki önerilerine karşılık olarak, Komisyon tarafından Konsey'e gönderilen tebliğde, 'Gündem 2000' belgesinde belirtilmiş olan Türkiye ile ilişkilerdeki siyasi ve ekonomik gelişmelere dayanılmıştır. Bu alanda, AB'nin izleyeceği geniş tabanlı bir politika çerçevesinde ilişkilerin güçlendirilebileceğine duyulan inancı dile getiren bu tebliğde, gümrük birliğinin pekiştirilmesi, telekomünikasyon ve bilgi toplumuna Türkiye'nin ortak edilerek desteklenmesi yanında, Topluluk mesleki eğitim ve gençlik programlarına katılım konusuna yer verilmiştir. Bunun yanında; Komisyon'un, Türkiye'nin Leonardo, Socrates ve Youth for Europe programlarına katılmasına ilişkin teklifi, halen Avrupa Parlamentosu ve Konsey tarafından incelenmektedir. Ayrıca, Türkiye'nin, gençlik, kültür, öğretim, eğitim, araştırma, KOBİ'ler, çevre, gümrük, trans-Avrupa ağlarının genişletilmesi başta olmak üzere diğer Topluluk programlarına katılmaya çağrılması teklif edilmektedir. Bu çerçevede, Topluluk programlarına katılım hakkındaki ilke kararının Ortaklık Anlaşmasına ek bir protokol içine alınabilmesi ve katılım şartlarının her bir program için ayrı ayrı müzakere edilmesi öngörülmektedir.[21]

Sonuç

Üçüncü ülkelerle bu alanda işbirliğinin geliştirilmesi ve bu ülkelerin desteklenmesinin hem AB hem de üçüncü ülkeler açısından büyük yararlar sağlayacağı açıktır. Merkezi ve Doğu Avrupa ülkeleri ve Eski Sovyetler Birliği'nden bağımsızlığını kazanan ülkeler, AB'nin genişleme sürecinde en azından potansiyel aday ülke konumunda bulunmaktadırlar. Bu niteliğe sahip ülkelere, eğitim ve mesleki eğitim konusunda AB'nin sosyal fonlarından finansman sağlanması, ortak eğitim girişimlerinin yoğunlaştırılması ve nihayet AB'nin Leonardo Da Vinci, Socrates ve Youth for Europe gibi Topluluk düzeyinde uygulanan ortak eğitim, mesleki teknik eğitim ve gençlik programlarının aktif katılıma açılması, AB'ne katılacak olan aday ülkelerin insan kaynaklarının geliştirilmesi, ekonomik gelişmelerinin vasıflı insangücü ihtiyacının giderilmesi yoluyla desteklenmesi, geçiş dönemi ülkelerinin dezavantajlarının bertaraf edilmesi ve Avrupalılık düşüncesine sahip gençlik yetiştirilmesi amaçlarına yöneliktir.

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[20] Avrupa Komisyonu Türkiye Temsilciliği; "AB-Türkiye İlişkileri"; Güncel Avrupa; sayı 5-6; Haziran-Ağustos 1997; Ankara; s. 24.

[21] Avrupa Komisyonu Türkiye Temsilciliği; "Gündem 2000"; Güncel Avrupa; sayı 5-6; Haziran-Ağustos 1997; Ankara; s. 20 vd.

Ayrıca, mesleki eğitim ve yüksek öğrenim alanlarında AB'nin, potansiyel aday ülkelere yönelik olarak geliştirmiş olduğu işbirliği ve yardım programlarının yanında, Atlantik ötesine ulaşan dışa açılma, AB sosyal politikasının etkinleştirilmesine katkıda bulunduğu kadar ekonomik ve nihayetinde siyasi bütünleşmede, eğitim, mesleki teknik eğitim ve yüksek öğrenim gibi sosyal politika faktörlerinin ihmal edilemeyecek öneme sahip olduğunu da ispatlamıştır.

Türkiye'nin, AB'ne katılma sürecinde hiçbir ülkenin geçirmediği 'gümrük birliği' aşamasında bulunması ve bu dönemin katılım noktasında 'elverişlilik' kabul edilmesine karşılık; sosyal alanda özellikle eğitimle ilgili ortak programlara katılmanın her bir program ve kurum için ayrı ayrı değerlendirilecek olması; diğer üçüncü ülkelerle geliştirilen sıcak ilişkiler gözönüne alındığında, AB'nin Türkiye'ye bakış açısı hakkında önyargıların oluşmasına yol açabilecek bir tutumdur. Bu bakımdan, Lüksemburg Zirvesi ile gergin bir havaya giren AB-Türkiye ilişkilerinin yumuşatılması ve en azından eğitim alanında AB'nin dışa açılma politikasından lehimize sonuçlar çıkarılması için çaba gösterilmesi bir zorunluluk olarak görülmelidir. Ayrıca, bilgiyi paylaşma ve bilgiye ulaşma konusundaki performansımız ölçüsünde, bilgi toplumuna giden yolda ufkumuzun açılacağı unutulmamalıdır.

KAYNAKÇA

Avrupa Komisyonu Türkiye Temsilciliği; "AB-Türkiye İlişkileri"; Güncel Avrupa; sayı 5-6; Haziran-Ağustos 1997; Ankara; s. 24.

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TES-İŞ; Gümrük Birliğine Girerken Türkiye; Ankara 1995.

EĞİTİM YÖNETİMİNDE TOPLAM KALİTE ANLAYIŞININ HİZMET VERİMLİLİĞİNE KATKISI VE ÇORUM MESLEK YÜKSEKOKULU UYGULAMASI

İrfan ÇAĞLAR [*]

1. GİRİŞ

Son yıllarda Eğitim Yönetimi kavramının önemi giderek artmaktadır. Bu önem, eğitim hizmetlerinin verimliliği ve artan rekabet ortamıyla yakından ilgilidir. Eğitim yönetiminde verimlilik, stratejik eğitim kaynaklarının iyi kullanılmasına bağlıdır. Sahip olunan bu kaynaklar ne kadar etkin yönetilebilirse, eğitim hizmetlerinin verimliliği de o oranda artacaktır.

Rekabetin hızla yaygınlaştığı günümüzde, bir firmanın varlığını sürdürebilmesi müşteri ihtiyaç ve beklentilerinin yeterince karşılanabilmesine bağlıdır.[1] Bu da kalite olgusunu çağrıştırmaktadır. Özellikle 1980'li yılların başından bu yana kalite kavramı yeni boyut ve anlamlar kazanmıştır. Eskiden kalite, sadece endüstriyel mallar için kullanılmaktayken, şimdilerde, aynı zamanda hizmet üretimi içinde kullanılmaktadır.

Kalite olgusunun algılanmasındaki bu gelişim, kaliteye yüklenen anlamı da değiştirmiştir. Geçmişte bir sonuç olarak düşünülen kalite, artık bir yaşam tarzı olarak kabul edilmektedir. Bütüncül bir boyut kazanan kaliteyi, salt kontrol olarak değil, Toplam Kalite Yönetimi anlayışı çerçevesinde algılamak; günümüzde rekabet ortamında verimliliğin olmazsa olmaz şartını ifade etmektedir.

Bu denli önemli olan kalite yönetimi anlayışının uygulamaya aktarılması, eğitim yönetiminde hizmet verimliliğini olumlu yönde etkilemektedir. Çalışmada bu temel tezden hareket edilmekte, Toplam Kalite Yönetiminin eğitim hizmetlerinde uygulanıp uygulanamayacağı ve uygulandığı takdirde ne tür somut sonuçlar elde edilebileceği test edilmek istenmektedir.

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2. EĞİTİM YÖNETİMİ VE EĞİTİMDE KALİTE KAVRAMLARI

2.1. Eğitim Yönetiminin Tanımı ve Kapsamı

Eğitim yönetimi; eğitim faaliyetlerinin gerçekleştirildiği kurumların yönetiminden çok daha geniş bir alanı kapsar. Bu kapsamın içerisinde, eğitim faaliyetlerinin düzenlenmesinde yol gösterici rol oynayan politika ve kuralların saptanması da yer almaktadır. Okul yönetimi bir bakıma, eğitim yönetiminin sınırlı bir alanda uygulanmasıdır. Bu alanın sınırlarını, genellikle, eğitim sisteminin amaçları ve yapısı tayin eder. Eğitim yönetimi nasıl yönetimin eğitime uygulanmasından meydana geliyorsa, okul yönetimi de eğitim yönetiminin okula uygulanmasından meydana gelmektedir.[2] Yani bunlar doğrudan birbirine bağlı iki eylemdir.

Eğitim yönetiminin genel çerçevesi bu şekilde belirlendikten sonra şöyle bir tanım geliştirilebilir. Eğitim Yönetimi; eğitimde belirlenen stratejik hedefler doğrultusunda, stratejik kaynakların etkin kullanımı, toplumun gelişiminin ortaya çıkardığı gereksinimlerin zamanında saptanması ve saptanan gereksinimlere uygun elemanlar yetiştirme çabalarının toplamıdır.

Tanımdan da anlaşılacağı üzere eğitimde yönetim eylemi son derece önemli bir olgudur. Hatta eğitim yönetimi, bir toplumun gelişmişlik düzeyini belirleyen bir ölçüt olarak da kabul edilebilir. Genellikle geri kalmışlıkla ülkelerin sahip olduğu yönetim özdeşleştirilmekte, yeterli bir yönetim sistemine sahip olmanın iyi bir eğitim yönetimine sahip olmakla mümkün olabileceği ifade edilmektedir.[3]

2.2. Eğitimde Kalite Kavramının Yeri ve Önemi

Eğitim, bireyde istenilen davranış değişikliğinin oluşturulma süreci olarak tanımlanmaktadır.[4] Tanımın temel esprisi, değişim ve istenilen davranış değişikliği olarak ifade edilen kalite anlayışına dayanır. Kalitenin özünde istenilen ölçütlerde bir değişim söz konusudur. Bu değişim genelde gelişme ve iyileştirme anlamındaki bir değişimdir. Aslında değişim olgusunun da varmak istediği sonuç kalitedir.

Günümüzde kalite pek çok sorunun çözümünün başlangıç noktası olarak kabul edilmektedir. Çünkü rekabet yetersizliğine dayanan Pazar sorunlarını kaliteli mal ya da hizmet üretimi ile çözmek olasıdır. Bu durum endüstriyel mal üreten işletmeler için böyle olduğu gibi, hizmet işletmeleri olarak kabul edilebilecek okullar ve onların eğitim hizmetleri için de aynıdır. Çağın değişim dinamiğini yakalayabilecek kapasitede insan yetiştirilmesi eğitim hizmetlerinin kalitesiyle yakından ilgilidir.

Eğitim açısından kalite kavramının pek çok açılımları yapılabilir. Yüksek öğretim açısından kalite; öğrencinin şimdi ve gelecekte okuluna ve toplumuna bağlılığını artıracak, sosyal, psikolojik, ilmi ve etik değerlerini geliştirecek çabaların sürekli iyileştirilmesidir.[5]

Yine kalite; mal veya hizmetin tasarımı aşamasında başlayıp, nihai aşamaya kadar devam eden süreçte tüm faaliyetlerde kontrol ve etkinliğin sağlanması, kuruluşun kalite politikasının uygulanması için sürdürülen bilinçli ve kararlı faaliyetlerin bir toplamıdır.[6]

TS. ISO 9005 Standartlarında ise kalite; bir ürün veya hizmetin belirlenen veya olabilecek ihtiyaçları karşılama kabiliyetine dayanan özelliklerin toplamı olarak tanımlanmaktadır. Tanıma göre hizmetlerin kalitesini büyük oranda müşterilerin ihtiyaç ve beklentileri tayin eder. Bu yüzden hizmet kalitesinin değerlendirilmesi mamül kalitesinin değerlendirilmesine oranla çok daha güç olmaktadır.[7]

Hizmet kalitesinin on boyutu; güvenirlilik, karşılık verme, yetkinlik, ulaşılabilirlik, nezaket, iletişim, kredibilite (itibar), güvenlik, müşteriyi anlamak ve fiziksel boyut şeklinde sıralanabilir.[8]Bu boyutlara sahip olan hizmet kalitesinin bir diğer özelliği de, müşterinin hizmet sürecine dahil olmasıdır. Bu da doğrudan hizmette bulunanlara ürettikleri hizmetle ilgili geri bildirim (feed-back) sağlar. Böylece hizmet üreten kurumlar hizmetlerinin yetmezliklerini anında öğrenme ve ona göre gerekli düzeltmelerde bulunma şansını elde ederler. Aynı şey eğitim kurumları ve bunların hizmetleri için de geçerlidir.

3. EĞİTİM YÖNETİMİNDE TOPLAM KALİTE ANLAYIŞI VE HİZMET VERİMLİLİĞİ

3.1. Toplam Kalite Anlayışının Boyutu

Eğitim yönetiminin Toplam Kalite Anlayışına adapte olması "öğreten" kurum anlayışından "öğrenen" kurum anlayışına geçmesi ile mümkündür.[9] Kurumların bu aşamaya ulaşmalarına "Öğrenen Organizasyonlar" denir. Öğrenen Organizasyonlar, öğrenmeye teşvik eden, çalışanları geliştirmeyi ön planda tutan, açık iletişim ve yapıcı görüşmeye önem veren organizasyon yapısını esas alırlar.[10] Böylece öğrenerek kendilerini yenileyen, değişen ve güncel olmayı başaran bu kurumlar hedeflerine daha kolay ulaşmakta, uygulamak istediklerini daha kolay hayata geçirebilmektedirler.[11]

Öğrenen organizasyonların en önemli özelliklerinden biri de bilgi üretim merkezi konumunda olmalarıdır. Bugün bilgi en büyük güç ve en büyük değer haline gelmiştir.[12] Bilgi üreten ve kendisini çağın ihtiyacına göre yeniden yapılandıran eğitim kurumlarının Toplam Kalite Yönetimi anlayışına geçmeleri şüphesiz daha kolay olacaktır. Zaten Toplam Kalite Yönetimi; uygulamada evrensel olmasına karşın her bir çevrede bireysel gereksinimlerin karşılanmasını gelenek haline getirmeyi ve gereksinimlere ayak uydurmayı zorunlu kılmaktadır.[13]

Toplam Kalite Yönetimi; hem bir yönetim düşüncesi hem de örgütsel iklimde bir değişim olarak ifade edilebilir.[14] Bu felsefe, bir organizasyonda "sürekli gelişme" ye olanak sağlayan bir ortam yaratır.[15] Toplam Kalite Yönetimi Sistemi bir anlamda kısmi özerklik vermek suretiyle çalışanların insiyatiflerini kullanabilmelerini sağlayarak yaratıcılık yönlerinin harekete geçirilmesini hızlandıracaktır.

Toplam Kalite Yönetimini benimseyen bir eğitim anlayışında amaç eğitimcilerin kendilerini yargılayıcı olmaktan çok destekleyici, aktarıcı olmaktan çok yönlendirici, okul duvarları içinde sıkışmış memurlardan çok, aileler, veliler, öğretmenler, işletmeler ve bütün toplumla birlikte çalışanlar olarak görmelerine yardımcı olmaktır.[16]

Toplam Kalite Yönetimini benimseyen bir eğitim yönetimi faaliyeti ile aşağıdaki hususlar hedeflenir.[17]

- Müşteri (öğrenci) odaklılık,
- Müfredatların hazırlanmasına öğrenci, veliler, öğretmenler ve diğer kurum temsilcilerinin katılımı,
- Çağdaş değerlendirme ve ölçme yöntemlerinin geliştirilmesi,
- Test yöntemlerinin zenginleştirilmesi,
- Uygulamalı eğitime ağırlık verilmesi,
- Öğrenme proseslerinin denetimine müşteri katılımı,
- İç ve dış müşteri tatmini,
- Gönüllü katılımcı grupların oluşturulması,
- Eğitim engellerinin tanımlanması v.s.

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Yukarıdaki hususların büyük çapta gerçekleştirilebildiği eğitim kurumlarında Toplam Kalite Yönetimi uygulamasının hizmet verimliliğine katkısı tartışılamaz. Aşağıdaki uygulama ve sonuçlar bu tezi doğrular mahiyettedir.

3.2. Toplam Kalite Anlayışının Eğitim Yönetimine Uygulanabilme Şansı ve Hizmet Verimliliğine Katkısı (Çorum Meslek Yüksekokulu Uygulaması)

Günümüzde, bir çok alanda gerek mal ve gerekse hizmet üretiminde, Toplam Kalite Yönetiminin verimliliğe katkı sağladığı düşünülmektedir. Ancak Toplam Kalite Yönetiminin beklenen ölçülerde uygulanabilmesi ve beklenen sonuçları vermesi, etkili bir örgüt iklimine ve örgütsel kültüre bağlıdır. Yani kalite kontrol çalışmalarında örgüt kültürünün önemli bir yeri vardır. Hizmetlerin soyut niteliği örgütsel kültürü daha da önemli kılmaktadır. Çalışanların kalite anlayışı, davranışları ve müşterilerle lişkileri, hizmet işletmeleri olarak kabul edilebilecek olan eğitim kurumlarının başarısında fevkalade önemli olmaktadır.[18]

Burada, Toplam Kalite Yönetimi anlayışının, eğitim yönetimine uygulanabilirliliğini Çorum Meslek Yüksekokulu açısından test etmeye çalıştık. Lokal olarak ve yetersiz ölçülerde güncelleştirilen bu uygulamalar bile, Toplam Kalite Yönetimi anlayışının uygulanabilirliği konusunda umut vermektedir. Çorum Meslek Yüksekokulunda, ağırlıklı olarak uygulamaya konulan hususlar şunlar olmuştur.[19]

- Müfredat tasarımında ve hazırlanmasında katılımcılık
- Ders planlarının çağın gereklerine göre yeniden düzenlenmesi
- Eğitimsel, kültürel ve sosyal faaliyetlerde gönüllü katılımcılık
- Örgüt kültürünün oluşmasına yönelik organizasyonlar
- Temsilciler ve katılımcı gönüllü gruplar vasıtasıyla yönetime katılma vs.
- Değişik alanlarda öneri sistemine işlerlik kazandırılması vs.

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Bu uygulamaların sonucunda; devamsızlık %90 oranında ve öğrenci sirkülasyonu (okul bırakma, okul değiştirme) %80 oranında azalmış, başarı oranı eskiye oranla %20 artarak %90'a yükselmiş, maddi ve moral anlamda çevresel destek çoğalmış ve endüstriyel geri besleme mekanizması yoğun olarak çalışmış, sosyal, kültürel ve sportif faaliyetlere katılım %100'e yaklaşmış, okulun imar ve restorasyon çalışmalarına gönüllü öğrenci katılımı sağlanmıştır.[20]

Elde edilen bu sonuçlar; yeterli alt yapısı oluşturulmak kaydıyla Toplam Kalite Yönetimi Uygulamasının öğrenci verimliliğine, kurumsal etkinliğe ve eğitim yönetiminde verimliliğe katkı sağladığını göstermektedir.

4. SONUÇ

Kuşkusuz Çorum Meslek Yüksekokulundaki uygulamalar, bütünüyle Toplam Kalite Yönetimi uygulamasını ifade etmekten uzaktır. Çünkü bu kalite yönetimi anlayışının ideal anlamda kurum ve eğitim yönetimine aktarılması kolay değildir. Uzun soluklu bir çalışmayı ve yeterli bir alt-yapıyı çalışmasını gerekli kılmaktadır. Ancak lokal olmasına rağmen Çorum Meslek Yüksekokulundaki sağlanan gelişmeler bile son derece önemlidir. Söz konusu sonuçlar, yaklaşık aynı özelliklere sahip diğer eğitim kurumları içinde anlamlı olabilir.

Toplam Kalite Yönetiminin Türk eğitim kurumları açısından etkinliği şu önlemlerin alınmasıyla artırılabilir:

1. Toplam Kalite Yönetimi konusunda kurum yöneticileri yeterli bilgiye sahip kılınmalıdır.

2. Kurumlar alt-yapı ve donanım olarak desteklenmelidir.

3. Eğitim faaliyetleri edilgen bir konumdan etken bir konuma getirilmelidir. Yani öğrenci odaklı bir eğitim anlayışına kavuşturulmalıdır.

4. Kaynakların etkin kullanımı açısından yerel yapılanmaya yer verilmelidir.

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5. Okullar ve eğitim kurumları öğrenen organizasyonlar haline dönüştürülmelidir.

6. İnsana değer ve onu kazanma eğitiminin temel esprisi olmalıdır. Bunun için eğitimde fırsat eşitliği sağlanmalıdır.

7. Kurum yöneticileri kaizeni (sürekli iyileştirme) öncelikle kendileri dünyalarında gerçekleştirmelidirler.

8. Eğitim kurumları bilgi yüklenme yerine bilgi üreten kurumlar olarak düzenlenmelidir.

9. Etkileşimci eğitim teknolojilerine yoğun bir biçimde yer verilmelidir. (CD-Rom, Video ve Internet gibi)

Bu ve buna benzer önerilerin sayısı artırılabilir. Herşeyden önce, bu önlemlerin ifade ettiği yönetim anlayışı ve bu anlayışın temel dinamiği olan kalite olgusu, yöneticilerin kafasında ve gönlünde bir yaşam felsefesine dönüşmelidir.

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TOPLAM KALİTE ANLAYIŞININ MYO'LARDA UYGULANMASI

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ÖZET

Hizmet ve Endüstri Sektörlerinin ihtiyacı olan nitelikli ve kaliteli teknik eleman (ara insan gücü) yetiştirme görevini üstlenen MYO'larda Toplam Kalite anlayışını yerleştirmek, çağdaş teknik ve mesleki eğitimin bir gereğidir. Toplam kalite sadece öğrenci kalitesini ve niteliklerini artırmak değil, bir sistem bütünlüğü içinde bir kurumun tüm yönleriyle eğitim sürecinde uygulanan yöntem ve tekniklerde , eğitim ortamında, anlayış ve kültürde yani bütünüyle kurum içinde değişimi ve teknolojik yenilikleri esas alan bir felsefedir.

Bu felsefenin MYO'larda uygulanabilmesi devletin teknik eğitim konusundaki kararlı ve tutarlı politikalarına, MYO idareci ve öğretim elemanlarının bu süreci yaşatma ve geliştirme kararlılığına bağlıdır. Bu makalede Toplam Kalite anlayışının MYO'larda uygulanabilirliği üzerinde durulmuştur.

ABSTRACT

Requirements of the Service and Industry Sectors with well qualified technicians are should be educated in TTC's. In that case settle of the Total Quality concept in TTC's is the necessity of the modern Technical and Indstrial Education. Total Quality concept is not only improve the quality of the students but olso entirety in whole system association with alternate understanding process, applied methods, technics and culture in education. That is, concept of Total Quality is a philosopy that based on continuous evaluation in whole association.

Applicability of that philosopy in TTC's, depends on political approach and stability of the government about Educational Training. On the other hand, it depends on management of TTC's and Educational Staff and their stability of improvement and be live on that process.

In this paper, Total Quality concept and application problems in education are examined.

1.GİRİŞ

21.Yüzyıla doğru "EĞİTİM" geçmişi sorgulama, yeniden tariflenme ve kökten değişim aşamasına gelmiştir. Eğitimde tartışılmaz üstünlüğe sahip kabul edilen ülkeler dahi geleceğin eğitim politika ve yatırımlarında bu sektörün temel faktörlerini değiştirmeyi dolayısıyla eğitimi yeniden biçimlendirmeyi planlamaktadırlar. Öğrenme gelecekte okul ve dersliklerden çıkıp evlerdeki elektronik okullarda yapılır hale gelecektir. "Geleceğin Üniversiteleri bugünkü standartlarla anlamamızın belki mümkün olmayacağı kadar derin bir değişim geçirecektir". Dolayısıyla tüm Endüstri ve Hizmet sektörlerindeki hızlı değişim Eğitimde de uygulanabildiği taktirde geniş anlamda topyekün kaliteden bahsedilebilir. Aksi halde eğitimde geri kalmış ülkelerin bu günkü panoramasında görülen "özel sektörde kaliteli eğitim, hızlı gelişme, klasik eğitim hedefli devlet sektöründe ise kalitesiz eğitim, gelişmeye ve beyin fırtınalarına adaptasyonu sağlanamayan iş gücü potansiyeli" yaratması kaçınılmazdır.

Bu çerçevede özellikle Toplam Kalite Yönetimi esas alınmış tüm sektörlerde, ortaya konan hedefler bütününde bu hedeflerinde ötesine ulaşmayı amaçlayan, vizyonu geniş eğitim politikalarının oluşturulabilmesi gereklidir. Bu makalede Endüstri ve Hizmet Sektörünün işgücü desteği açısından temel kaynaklarından biri olan M.Y.O'ların 21. Yüzyıla doğru Eğitim hedefleri ve kalite anlayışının ne olması gerektiği irdelenmiştir.

2. TOPLAM KALİTENİN VAZGEÇİLMEZ UNSURU "EĞİTİM"

Toplam Kalite Yönetimi A.B.D.'de doğmuş, ancak başlangıçta pek kabul görmemiştir. Hatta 1950'li yıllarda T.K.Y. ' nin öncülerinden M.Edwards Dewing'in Japonlara kaliteyi öğrettiği kabul edilmektedir. Ancak bu kavramın kalite kontrolünü aşıp Yönetim Kontrol Sistemi haline gelmesi ve kalitede mükemmelliğe gidişin tek yolu olarak kabul edilmesi Japonların eseridir. Müşteri tatmini esaslı T.K.Y. de Dewing'in on dört temel ilkesinden eğitimle direkt ilgili şu üç ilkeyi dikkate almak gerekir;

1. Kurumda Mesleki Eğitim vermek,
2. Liderliği tesis etmek,
3. Zengin bir Eğitim ve kendini yenileme programı kurmak.

Bu faktörleri sektör içi eğitim olarak yorumlamanın dışında Topyekün Kaliteye ulaşma hedeflerinden bazıları olarak yorumlamak herhalde yanlış olmayacaktır. Endüstri ve Hizmet Sektörlerinin temel işgücü kaynağı iyi eğitilmiş ve o mesleğe yönlendirilmiş teknisyenler olduğuna göre, bu potansiyelin sektörde çalışmaya başlamadan önce Toplam Kalite anlayışını benimsemesi, özümsemesi ve yaşaması topyekün bir başarının ilk adımı olacaktır.

Günümüzde tüm dünyada ve özellikle gelişmekte olan ülkelerde sektör; çalışanlarının periyodik olarak seminer, kurs vb.. eğitim faaliyetleri ve yerinde öğrenme metotlarıyla Toplam Kalite bilincine ulaşmasını sağlamakta veya hedeflemektedir. Oysa bu çalışmalar büyük üretim, zaman ve ekonomik kayıplara neden olmaktadır. Modern anlayışla eğitim bir maliyet unsuru olmaktan çıkmış üretim unsuru olmuştur. Geleneksel anlayışlı eğitim ise dar kalıplarını aşamayacak öğretmen merkezli, geniş müfredatlı, yönetici kontrollü anlayışla, öğrenci ihtiyaçlarına, sektörün beklentilerine cevap vermekten uzak bir yapıdadır. Bu nedenle eğitim vizyonunun genişletilmesi için T.K.Y'nin sadece özel sektörde değil tümüyle eğitim sistemine yerleştirilmesi kaçınılmazdır.

Özellikle A.B.D gibi ülkeler eğitimdeki gerilemeyi sorgularken, eğitimi yeniden yapılandırma gereğini ortaya koymaktadır. Roy L Harmon 21.yy'da eğitim alanında gelişecek sektörlerin Elektronik Eğitim yazılımları, iş eğitimi, karşılıklı etkileşimli eğitim olduğunu ve öğretmenlik, Devlet öğretim programları, okul inşaat ve donanımları ile idareciliğin gerileyecek sektör ve meslekler olduğunu vurgulamaktadır. Eğer eğitimde hedef ve müşteri ilişkisi net olarak tanımlanabilir ve bilinçli olarak çalışmalar yapılabilirse, özel sektör ile eğitim sektörü Toplam Kaliteyi birlikte kontrol edebilir ve çok büyük kazançlar elde edebilirler. Aksi halde yeni yüzyıla rekabet şansını kaybetmiş olarak girilmesi kötümser bir yaklaşım olmayacaktır.

3. ENDÜSTRİ VE HİZMET SEKTÖRLERİNİN VAZGEÇİLMEZ UNSURU "M.Y.O." LAR

Hızla sanayileşen ve üretime yönelen dünyamızda insan kaynakları alanında sektörlerin kendilerine gerekli iş gücü temininde, nitelikli ara insan gücüne ihtiyaç duydukları bir gerçektir. Ve yine bu gücü temin maksadıyla M.Y.O. 'larının potansiyel bir kaynak olduğu, başka bir ifadeyle M.Y.O. 'larının nitelikli ara insan gücü kaynağı olduğu da bir gerçektir. Ancak yurdumuzda açılması planlananlarla birlikte yaklaşık 500 civarında M.Y.O. olduğu ve bunlardan mezun olanlarla sektörün istediği vasıflarda elemanlar arasında dağlar kadar uçurumlar olduğu bir gerçektir. Bu durumda şu sorulara cevap aramak gerekir.

a) M.Y.O. yanlış eğitim politikaları ve hedefleriyle mi açılmıştır ?

b) M.Y.O. 'larında eğitim kalitesi ve stratejileri uygulanmıyor mu ?

c) Sektör kendine gerekli ara insan gücünü bilmiyor mu ?

Elbette son soruya evet demek mümkün değildir. Ancak mezun ve istihdam edilen teknikerler arasındaki ilişkiyi ilk iki soruda aramak gerekir. Eğer M.Y.O.'larının eğitim politikaları ve hedefleri yanlış ise veya M.Y.O. 'larında eğitim kalitesi düşük, stratejileri yok ise ciddi bir problem vardır. Ancak iyimser bir yaklaşımla ve M.Y.O. larının kalitesinin artırılmasına yönelik çalışmalar doğrultusunda hedeflenen eğitimin gerisinde olduğumuz, belirli düzenleme ve ciddi politikalarla M.Y.O. ile sektör arasındaki kopukluğu giderebileceği ve her iki taraf içinde artı değer sağlanabileceği söylenebilir.

4. M.Y.O.' LARDA SORGULANMASI GEREKEN BAŞARI FAKTÖRLERİ

-MYO çevrenin beklentileri ve istihdam alanına göre program açmakta mıdır, bu konuda danışma kurulu işletilmekte midir? Gerekli alt yapı sağlanmış mıdır?

-MYO nun açılırken gerekli konusunda uzman mesleki eğitim formasyonuna sahip ve mesleki gelişmeleri takip edebilen eğitici alt yapısı var mıdır?

-MYO nun alt yapısı yoksa bile programlarına destek verebilecek eğitimleri bünyesinde sürdürebilecek sektörler çevrede mevcut mu, Protokollerle işbirliği yapılmış mı?

-MYO Yöneticileri nasıl seçilmiş, konunun uzmanları mı yoksa yönetici mantıklı kişiler mi?

Faktörleri artırmak mümkün, burada asıl önemli olan konu mevcut yapının ileriyi götürülmesi mi yoksa yeniden yapılanma mıdır? Mevcut yapının ileriye götürülmesi için yukarıdaki sorulara şu muhtemel yanıtlar verilebilir:

-MYO çevre faktörü dikkate alınmadan açılmış ve mezunlarının istihdam alanı yoksa başarı hayalcilik olacaktır.

-Yeterli öğretim elemanı yok yada var olanlar yetersiz ise ve yetersiz öğretim elemanlarını uzaklaştıramıyorsanız ciddi bir engel daha demektir.

-Eğer hem M.Y.O. ve hem de sektör yan yana mevcut ve işbirliği tesis edilemiyorsa, başarının beklenmesi zordur.

Yukarıdaki faktörler olumlu ise ancak M.Y.O. yönetimlerinde işin uzmanı olmayan, hatta teknik eleman olmayan yöneticiler var ve klasik yönetim sergiliyor iseler, eğitimde başarının önü bir kez daha tıkanacaktır.

Sıralanan bu faktörlerin M.Y.O.' larda bir veya birkaçının birlikte yaşandığı gerçeği göz önüne alınırsa mezun öğrencinin vasıflarındaki performans düşüklüğü, istihdam oranlarının düşüklüğü beklenen sonuçlar olmalıdır.

5. TOPLAM KALİTENİN M.Y.O.' LARDA UYGULANABİLİRLİĞİ

Yukarıda tariflenen durum mevcut yapıyı göstermektedir. Ancak soruların cevaplarını olumlu verebilecek M.Y.O.'lar mevcuttur ve hedef bunları arttırmak olmalıdır. YÖK/Dünya Bankası Endüstriyel Eğitim Projesi kapsamındaki okullar ile sektörden özel işbirliği protokolleriyle destek gören M.Y.O.'lar eğitim stratejilerindeki hedeflere biraz daha yakın olabilmişlerdir. Bununla birlikte eğimde kalitenin ölçüm kriterini de dikkate almak gerekir. Matematiksel oranlar ve güncelleştirilmemiş müfredatlar ile ölçülen başarı toplam kalitede bir şey ifade etmeyebilir. Okul-Yönetici-Öğretici bütünüyle sektörü müşterisi olarak görür ve sektörün istediği vasıfta öğrenciyi yetiştirirse hedefe varılmış demektir. Tekniker eğitiminde toplam kaliteye ulaşmak için şu faktörlerin yaşama geçirilmesi gereklidir;

-Sektör ilgi M.Y.O. yada M.Y.O. programı ile ikili iş birliğine başlamalı ve eğitimin bir kısmını bünyesine alabilmelidir.

-Sektörün beklentileri doğrultusunda müfredatlar elden geçirilmeli sektörden profesyönel kişiler bazı dersleri bizzat üslenebilmeli.

-Sektör öğrenciye uygun eğitim imkanı sağlarken onu kendine kaynak olarak görmeli ve gerekli oryantasyonu sağlamalıdır.

-M.Y.O.'nın alt yapısına sektör imkanlarını kullanarak destek vermeli klasik eğitim anlayışı yerine modern eğitim imkanlarını okullarada aktarabilmeli.

-Eğitimcilerin akademik yada mesleki kariyeri ön planda tutulup yeni ve çağdaş eğitim metodlarını uygulayabilme ortamı sağlanabilmeli. M.Y.O. yönetimi mükemmel ürün olarak öğrenciyi üretme hedefinde olmalı ve müşteri olarak da öğrencinin istihdam edileceği sektörü görebilmelidir.

-Okul ve Endüsri kuruluşlarından meydana gelen bir istişare kurulu tesis edilerek teknolojik gelişmelere, Hizmet ve Endüstri kuruluşlarının ihtiyaçlarına göre ders ve müfredatların oluşturulmasında, Eğitim stratejilerinin belirlenmesinde, Eğitici-Öğretici kurs ve seminerlerin düzenlenmesinde, öğrencilerin istihdamı ve toplam kaliteyi artıracak tüm alanlarla ilgili programlara danışmanlık yapması sağlanabilmelidir.

6. SONUÇ

Ana başlıklar halinde değinilen eğitimde toplam kalite konusu, üzerine ciddi planlamaların yapılması gereken bir konudur. Aksi halde hızla özelleşen sektörlerden biri olan eğitimde M.Y.O.'lar mezun ettikleri öğrenciler için müşteri bulamayacaklardır. Toplam kalite sistematik olarak kuruma yerleşirse ve sıfır hata teoremleri eğitime aktarılabilirse ki bu çok ciddi bir hedeftir, 21.yy'a doğru üniversite sanayi dostluğu bir iş birliğine dönüşür ve Toplam Kalitenin hedef-müşteri tanımlaması yapılabir. Ancak bu konuda mevcut kurum ve sektörlerin dışında devletin M.Y.O. politikalarında gerekli hukuki düzenlemeleri yapması sanayi ve bilgi çağında kendine en büyük katkı sağlayacak bu kurumları desteklemesi gereklidir.

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MESLEKİ VE TEKNİK EĞİTİMDE MODÜLER YAKLAŞIM

THE MODULAR APPROACH IN VOCATIONAL AND TECHNICAL EDUCATION

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ÖZET

Eğitimde modül, ulaşılacak öğrenme hedeflerini davranışsal olarak gösteren, hedeflere erişebilmek için gerekli etkinlikleri belirleyen, hedeflere ne derecede erişildiğini kontrol etme olanağı veren ve değişik öğrenme koşulları içinde bulunan bireylerin öğretiminde etkili biçimde kullanabilme özelliği taşıyan kendi içerisinde bütünlüğü olan bir öğrenme elemanı olup uzmanlığa dayalı ve kolaylıkla tanımlanabilen becerilerin öğretiminde etkilidir.

Geleneksel bir mesleki ve teknik eğitim sisteminin ani bir kararla modüler bir sisteme döndürülmesi kolay bir iş değildir. Ayrıca şunu da belirtmek gerekir: Eğitim sistemini **tümüyle** modülleştirmiş bir ülke mevcut değildir.

548

MESLEKİ VE TEKNİK EĞİTİMDE MODÜLER YAKLAŞIM

A. TANIMI

Sözlük anlamıyla **modül** (Latince modulus, Fransızca module), aynı türden başka bir elemanla yan yana getirilebilen, birleştirilebilen ya da aynı işlevde amaç birliği edebilen elemandır[1].

Elektronikte kullanılan anlamda, **modül**, standartlaştırılmış, kolaylıkla tanımlanabilen ve değiştirilebilme (enterşanjabilite) özelliğine sahip parçalardır.

Uzay havacılığında **modül**, bir uzay aracının, hem yapısal hem işlevsel bir birim oluşturan bölümüdür.

De Lansheer'e göre genel anlamıyla **modül**, bir bütünün, standart veya yarı standart bir ünitesi, bir parçasıdır.[2]

Bu ve buraya yazılamayacak kadar pek çok tanımların hemen tümündeki ortak özellik, modülün bir bütünün parçası olmasına rağmen, kendine özgü fonksiyonlara sahip olması ve farklı sistemlere kolaylıkla uyabilmesidir.

B. ve M. Goldschmid'e göre, eğitimde kullanılan anlamıyla **modül**, öğrencilerin belirli ve önceden saptanmış amaçlara ulaşmalarına yardımcı olmak üzere tasarlanmış bir dizi planlı, erkin (otonom) ve bağımsız öğrenme faaliyetidir.[3]

Noel Entwistle'e göre modülleştirme bir eğitim programına konulmak üzere uygun bir esneklikte tasarlanmış bir mekanizma olarak görülmektedir. Bu eğitimciye göre **modül**, eğitim öğretim programlarının ayrı ve kendi başına bir bölümü olup, bir kalifikasyona götürmek üzere tasarlanmıştır ve birbirleriyle birleştirilerek bir program oluşturulabilir.[4]

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[1] **Libraririe Larousse,** Grand Dictionnaire Encylopedique (**Paris : 1986**).

[2] **"G. De Landsheere, L'Enseignement Modulaire,** Rapport D Activite de Recherche et de Developpement (**Liege Laboratoire de Pedagogie Experimentale, Universite de Liege, 1981), ss. 101-104" Une sco, The Modular Approach in Technical Education (Paris: 1989), s. 17.**

[3] **B. Ve M. Goldschmid,** Modular Instruction in Higher Education: A Review (**Montreal: McGill University, 1972) Unesco,** The Modular Approach in Technical Education (**Paris: 1989), s.17.**

[4] **Noel Entwistle (ed.),** Handbook of Educational Ideas and Practices (**New York: Routledge, 1990), s. 599.**

Cevat Alkan ve Necmettin Teker'e göre modül, ulaşılacak öğrenme hedeflerini davranışsal olarak gösteren, hedeflere erişebilmek için gerekli etkinlikleri belirleyen, hedeflere ne derecede erişildiğini kontrol etme olanağı veren ve değişik öğrenme koşulları içinde bulunan bireylerin öğretiminde etkili biçimde kullanabilme özelliği taşıyan kendi içerisinde bütünlüğü olan bir öğrenme elemanıdır. Modüler programlama ise, öğrenme-öğretme etkinliklerinin kendi-kendine öğrenme olanağı sağlayacak tarzda, kendi içinde bütünlüğü olan ve birbirlerini işlevsel olarak tamamlayacak biçimde bağımsız öğrenme elemanları şeklinde düzenlenmesidir.[5]

Eğitim modülü, aslında, bir öğrenme ortamıdır. D'Hainaut ve Vasamillet'e göre modül, bir eğitim organizasyonu ve yapısı olup, bir metot değildir[6]. Modüler eğitim; grup eğitimi, bilgisayar destekli eğitim, örnek olay, proje geliştirme, mikro öğretim, simülasyon, takrir, vb. çeşitli metotlarla kullanılabilir.

B. TARİHÇESİ VE MODÜLER PROGRAMLARDAN BAZI ÖRNEKLER

Mesleki ve teknik eğitimde modüler eğitimin geliştirilmesi ve kullanılması, 2. Dünya Savaşı yıllarına dayanır. Savaş yıllarındaki gereksinim, her işçinin, sadece bir işi veya işlemi, istenilen hassasiyette ve hızda yapmasını mümkün kılmaktı. Bir başka gereksinim de, işçilerin, fazla zaman kaybetmeden, başka işler için yeniden eğitilmesiydi.

Özellikle kamuya ait eğitim-öğretim kurumlarının modüler eğitime girmesi ve modül ismini kullanması 1970'li yıllara rastlar. Unesco Genel Konferansı'nın 1974 yılında 18. birleşimde aldığı bir karar bu gelişimi hızlandırmıştır. Bu karara göre, formal öğretim sisteminin hem içinde hem de dışında kalan eğitim, öğretim ve rehberlik hizmetleri için açık uçlu, esnek yapılar geliştirilecektir (Aynı karar, Unesco'nun 1989 yılındaki 25. birleşiminde de tekrarlanmıştır).

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[5] **Cevat Alkan ve Necmettin Teker,** Programlı Öğretim: Değişik Teknolojiler ve Türkiye'deki Uygulama **(Ankara: A.Ü. Eğitim Fakültesi Yayınları No: 169, 1992), s. 43.**

[6] **L. D'Hainaut ve C. Vasamillet,** Modular Training: Introduction **(Torino, İtalya: ILO Turin Centre, 1990), s.32.**

Uluslararası Çalışma Teşkilatı (ILO), hızlı değişen ve gelişen ekonomilerde uygulanabilecek esnek bir mesleki eğitim yaklaşımı geliştirmek amacıyla yoğun çalışmalar yapmış ve bunun sonucu olarak 1981'li yıllarda, **İstihdam Edilebilir Beceri Modülleri** (MES-Modules of Employable Skill) adıyla bir dizi modül geliştirmiştir. (Bu modüller, Türkiye Metal Sanayicileri Sendikası (MESS) Eğitim Vakfı tarafından, 1993 yılında Türkçe'ye tercüme ettirilmiştir.) Modüllerin herbiri ayrı bir beceriyi işlemekte ve gerektiğinde değişik öğrenim paketleri halinde gruplaştırılabilmektedir.

ILO'nun İtalya'nın Torino kentinde bulunan International Centre for Advanced Technical and Vocational Training adlı kuruluşu 1982/1983 yıllarında modüler yaklaşımı kullanarak pek çok eser yayınlamıştır. Bunların içinde, 19 modülden oluşan **Modüler Öğretmen Eğitimi** Paketi önemli bir yer tutmaktadır. (12 modül öğretim metotları, 2 modül görsel-işitsel teknikler, 5 modül öğretim programlarının hazırlanması).

ILO'nun geliştirdiği modüller arasında, **Nezaretçilerin Eğitimi İçin Modüler Program** (Modular Programme for Supervisory Development) önemli bir yer tutar. Program, tamamı beş ciltlik 34 adet modül ile öğretmen kılavuz kitabından oluşmaktadır. Öğretmen kılavuz kitabı, modüler programın nasıl kullanılacağını açıklamaktadır. Bu program, Çıraklık ve Yaygın Eğitim Genel Müdürlüğüne bağlı Ankara 4. Akşam Sanat Okulu'nda yıllardır uygulana gelmekte olan Monitör Eğitimi programına mükemmel bir örnek teşkil edebilir.

İngiltere'de, kamu ve özel sektöre ait bir çok kurum mesleki ve teknik eğitim alanında modüller geliştirmişlerdir. Bunlar arasında, Manpower Services Commission'nın hazırladığı Elektronik alanındaki modülleri; National Gentre for School Technology adlı bir kuruluşun hazırladığı Elektronik, İnşaat, Malzeme Teknolojisi, Pnömatik, Enstrümantasyon, Optik ve Dijital Mikroelektronik alanlarındaki modülleri örnek olarak gösterebiliriz.

Modüler eğitimin Asya kıtasında geliştirilmesinde öncülüğü, Hindistan'da Bhopal Technical Teachers Training Institute (TTTI) ile Manila'daki **Colombo Plan Staff for Technician Education** (CPSCTE) yapmıştır. Bu kurumun, 1983 yılında yayınladığı **Teknisyen Okulu Öğretmenlerinin Hizmetiçi Eğitimi** (In-Service Training of Technician Teachers) ve 1988 yılında yayınladığı **Teknisyen Öğretimi**

Araştırmasında Becerilerin Geliştirilmesi (Developing Skills in Technician Education Research) adlı modül setleri geniş ölçüde kullanılmaktadır. Bu kurumun, modüllerin tasarlanması ve kullanılmasına ilişkin bir de yayını bulunmaktadır.[7]

ABD'lerinde modüler eğitim giderek gelişmekte ve yaygınlaşmaktadır. Bu alanda öncülük yapan kurumlar arasında American Association for Vocational Instructional Materials (AAVIM) ile Ohio State University'sinin the National Center for Research in Vocational Education (NCRVE) adlı kurumlar sayılabilir. NCRVE'nin tasarladığı ve geliştirdiği modül dizileri arasında (1) 100 modüllük **Teknik Öğretmenlerin Eğitimi**, (2) 30 modüllük **Ortaöğretim ve Sonrası Okul Yöneticilerinin Eğitimi**, (3) **Müteşebbislikte Yeterlik Edinme Programı** ve (4) **İtfaiyecilik Eğitimi** programları bulunmaktadır.

İngiltere'de Açık Üniversite, modüler programları geniş ölçüde kullanmaktadır. The Technician Education Council'ın (Şimdiki adıyla B/TEC) modüler biçimde hazırladığı çok sayıda program vardır. The National Vocational Qualification (NCVQ), modüler eğitimi de akredite etmeye başlamıştır. İskoçya, 1980'lerde başlattığı bir reform hareketiyle, hemen tüm mesleki kalifikasyonları, herbiri yaklaşık 40 saatlik, 2 000 modüllük bir çerçeveye oturtarak tek bir ulusal sertifikaya (National Certificate) ulaşmıştır[8]. Modüller, tam veya yarı zamanlı eğitim gören öğrenciler veya kursiyerlerce, okulda veya kolejde alınabilmektedir.

Modüler eğitime getirilen bir başka boyut, geleneksel eğitimle olan farklı yönleri gidermeye yönelik çalışmalardır. ABD, Kanada, İngiltere ve Avustralya gibi ülkeler, eğitim programlarında kullandıkları modülleri, (1) **zorunlu modüller** ve (2) **seçmeli modüller** halinde hazırlamışlardır. Örneğin, Avustralya'da Australian Fire Authorities Council adlı kurum beş düzey için kullanılmak üzere modüller hazırlamıştır. İlk üç düzey sertifikaya, 4. düzey diplomaya, 5. düzey ise ileri seviye diplomaya yönelik olup, her düzey, Zorunlu Modüller ve Seçmeli Modüller olmak üzere ikişer takım halindedir.

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[7] **Colombo Plan Staff College For Technician Education**, Modules from Design to Implementation (**Manila: CPSC, 1984**).

[8] **David Finegold, Laurel McFarland ve Will iam Richardson (eds)**, Something Borrowed, Something Learned: The Transatlantic Market in Education and Training Reform (**Washington, D.C.. The Brookings Institution, 1993**), **s. 129 ve s. 140.**

Türkiye'de modüler eğitim programları henüz istenilen yaygınlığa ve düzeye ulaşamamıştır. Bu alanın yerleşmesi ve gelişmesi için üniversitelerin eğitim fakülteleri çaba harcamaktadır. Örneğin, A.Ü. Eğitim Bilimleri Fakültesi'nde konuyla ilgili Programlı Öğretim, Modüler Programlar, Uzaktan Öğretim gibi dersler okutulmaktadır.[9] Bu alanda yapılan çalışmalardan birisi de Prof.Dr. Şadiye Külahçı'nın, Fırat Üniversitesi Teknik Eğitim Fakültesi program geliştirme çalışmaları çerçevesinde hazırladığı, Öğretmen Yetiştirme Modül Serisi'nin **Meslek Analizi ve Program Geliştirme**, **Öğretim Yöntemleri**, **Eğitim Teknolojisi** ve **Mikro Öğretim** adlı modülleridir.[10] Bu seri, modüler programın taşıdığı tüm özellikleri içermektedir.

Türkiye'de, ayrıca, bazı kuruluşların (örneğin, Milli Prodüktivite Merkezi'nin **Modüler İş Etüdü Programları**) modüler programlar hazırlama ve eğitim verme çabaları vardır. Milli Eğitim Bakanlığı düzeyinde, gerek ikili anlaşmalarla yürütülen ve gerekse Dünya Bankası destekli projelerin faaliyetleri çerçevesinde bazı çalışmalar yapılmaktadır. Milli Eğitim Bakanlığı Kız Teknik Öğretim Genel Müdürlüğü tarafından 1993 yılında başlatılan **Mesleki ve Teknik Eğitimi Geliştirme Projesi (METGE)** faaliyetleri çerçevesinde giyim, beslenme, çocuk gelişimi, el sanatları, nakış ve resim alanlarında toplam 549 modül tasarlanmış; hazırlanan modüllerden 44'ü proje okullarında uygulamaya konulmuştur. Her modül; okuma öğrenme, ölçme-değerlendirme ve öğretmen kılavuzu olmak üzere üç kitapçıktan oluşmaktadır.

C. MODÜLER MESLEKİ VE TEKNİK EĞİTİM

Mesleki ve Teknik Eğitimde, eğitimin modülleştirilmesi demek, modüllerle; diğer bir deyişle, kendi yapısı ve içeriği olan öğrenme üniteleri ile eğitim yapılması demektir. Herbir modül, daha büyük bir bütünün (sistemin) içinde kendi başına bir bütünlük taşımaktadır. Modüler eğıtim programının hedefi, bir mesleği, bir işi yapmak veya bir fonksiyonu yerine getirmek için gereken bilgi, beceri ve davranışların öğrenciye kazandırılmasıdır.

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[9] **Alkan ve Teker,** Ön. ver., s. 47.

[10] **Şadiye G. Külahçı,** Öğretmen Yetiştirme Modül Serisi **(Ankara: Özışık Ofset Matbaacılık, 1995).**

Unesco'nun bir yayınında belirtildiğine göre[11], modüler yaklaşım, ihtisasa dayalı ve kolaylıkla tanımlanabilen becerilerin öğretiminde etkili olması nedeniyle teknik eğitim programlarının özellikle dört alanı için çok uygundur. Bu alanlar; (a) Teknik öğretmenlerin hizmet öncesi ve hizmetiçi eğitimi, (b) Tamir ve bakım eğitimi, (c) Genel eğitim programları içindeki teknoloji eğitimi ve (d) Teknisyenlerin eğitimi.

Modüler eğitim, esnek bir yapıda olduğu için, gerek örgün gerekse yaygın mesleki eğitimde; gerek tam zamanlı gerekse yarı zamanlı eğitimde etkinlilikle kullanılabilmektedir. Yetişkinler eğitimi ve yaşam boyu eğitim için de ideal bir ortam oluşturmaktadır. Bunlardan daha da önemlisi, modüler eğitim, yatay ve dikey geçişlere olanak sağlayan bir sistemdir.

Modüler eğitim, teknolojinin hızlı gelişmesi karşısında daha uyumlu olmakta; gelişme ve değişmeler karşısında modüllerin tamamı ortadan kalkmadığı için, yalnızca, eskiyenlerin yerine yenileri hazırlanmakta ve modül yeni ihtiyaçlara göre yeniden sıralanmaktadır.

Modüler yaklaşımın mesleki ve teknik eğitimde kullanılmasına karşı çıkan bazı grupların itirazları, bu yaklaşımla beceri öğretilemeyeceği noktasında toplanmaktadır. Daha önce de belirtildiği üzere, modüler yaklaşım bir metot değildir ve diğer metotları ortadan kaldırmamaktadır. Modüler yaklaşım, modül içerisine yazılmak ve sınırları belirtilmek koşuluyla, öğretmenlerin atelye ve laboratuvarlarda demonstrasyon yapmalarına ve öğrencilerin iş-işlem yaparak, ya da tekrar tekrar yaparak beceri kazanmalarına olanak verir. Bu durumda, öğrencilerin yaptığı iş ve işlemlerin nasıl ölçüleceği ve değerlendirileceği modül içinde açıkça belirtilmelidir.

Geleneksel bir mesleki ve teknik eğitim sisteminin ani bir kararla modüler bir sisteme döndürülmesi kolay bir iş değildir. Ayrıca şunu da belirtmek gerekir: Eğitim sistemini tümüyle modülleştirmiş bir ülke mevcut değildir. Konuyu ülkemiz bakımından inceleyecek olursak görülecektir ki, Yedinci Beş Yıllık Kalkınma Planı (1996-2000), örgün ve yaygın eğitim kurum ve programları arasında her aşamada yatay ve dikey geçişlere imkan veren esnek bir yapı oluşturulması; mesleki ve teknik eğitimde modüler sisteme geçilmesi; müfredat programlarının modüler sisteme uygun hale getirilmesi; örgün veya yaygın eğitim alan ve aynı mesleki becerilere sahip olan kişilere eşdeğer meslek sertifikası verilerek denkliklerinin sağlanması öngörülmektedir[12]. Planın öngördüğü hususları yerine getirmek, oldukça güç gözükmektedir. Burada yapılacak iş; hangi alanlarda modüler sisteme geçileceğine karar vermek ve uygulamaya sınırlı çalışmalarla başlamak; modüler sisteme geçiş için bir plan, bir proje hazırlamak; finansmanı sağlamak ve program geliştirme uzmanları ile alan uzmanlarını biraraya getirerek çalışmaya başlamaktır. Hazırlanan program ile materyallerin deneme uygulamaları sonucunda bir değerlendirme yapılmalı; sistemin başarılı olduğu anlaşılırsa yaygınlaştırılmalıdır. Özetle, modüler sisteme geçiş planlı olmalı ve safha safha oluştulmalıdır.

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[11] **Unesco,** The Modular Approach in Technical Education **(Paris, Fransa: 1989), ss. 33-36.**

D. SONUÇ

Bu sistem (ya da Alkan' ın ifadesiyle, bu yeni teknoloji), bugün mevcut olanlardan farklı ortam, farklı beceriler ve farklı iletişim ve karar verme süreçlerini gerektirmektedir. Bu konuda kamuoyu oluşturma, programların standartlaştırılması, esnekleştirilmesi, öğrenci akışı ve düşey-yatay geçiş mekanizmaları oluşturma, gerekli yapılaşma ve düzenlemeler yapma ve teknik insangücü yetiştirme gereksinimi vardır.[13]

Bu sistem, geleneksel eğitimi ortadan kaldırmak için tasarlanmamıştır. Unesco'nun bir yayınında belirttiği gibi[14] geleneksel sistem **table dhote** ise, modüler sistem **â la carte**'dır.

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[12] Yedinci Beş Yıllık Kalkınma Planı (1996-2000), **Resmi Gazete**, 22354; Temmuz 1995. s. 25.

[13] **Alkan ve Teker,** Ön. Ver., **s.50**

[14] **Unesco,** Ön. Ver., **s.27 ve s.40.**

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ÖRGÜTSEL ÖĞRENMEYE HAZIR ÖĞRENCİLERİN YETİŞTİRİLMESİNDE FIRSATLAR

OPPORTUNITIES FOR TRAINING THE STUDENTS WHO ARE READY TO LEARN ORGANIZATIONALLY

İrfan ONAY
NETAŞ
İSTANBUL

ÖZET

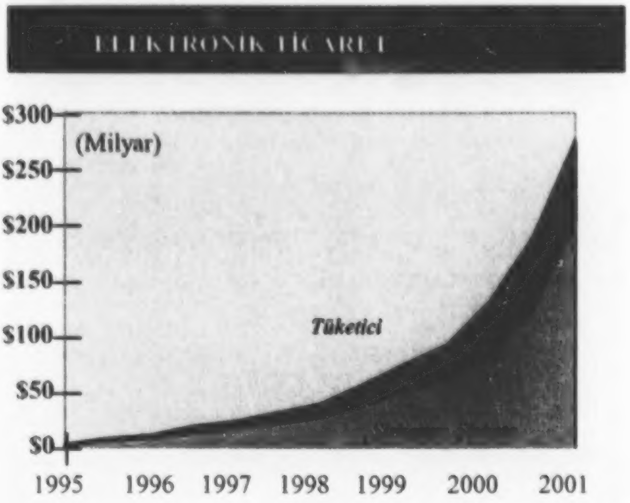
Bilişim ve iletişim teknolojilerindeki gelişmelerin iş yaşamındaki uygulama ve önceliklerde yol açtığı değişiklikler kuruluşların insan kaynakları geliştirme yaklaşımlarında da değişikliklere yol açmaktadır.

Bu bildiride Avrupa Kalite Yönetim Vakfı iş mükemmelliği modelinden yola çıkılarak örgütsel öğrenmenin temel beklentileri özetlenmekte ve takım olarak öğrenme açısından NETA?'ta uyguladığımız yöntemler tartışılmaktadır.

Yakın gelecekte kuruluşlarda görev alacak mesleki ve teknik eğitim kurumları öğrencilerinin endüstrinin beklentileri doğrultusunda yetiştirilmesindeki olanakların değerlendirilmesi için deneyimlerimize dayalı bir dizi öneri de bildirinin sonunda sıralanmaktadır.

1. BİLGİ ÇAĞINDA İŞ YAŞAMI

Bilgisayar ve iletişim teknolojilerinin birbiri ile uyumlu bir şekilde gelişmesi iş yaşamında dünyanın her yerindeki, değişik ölçekli kuruluşlara büyük olanaklar sağlamaktadır. Bunun bir göstergesi olarak önümüzdeki 3 yıl içinde elektronik ortamdaki ticaret hacminin yaklaşık 6 kat artarak 300 milyar Amerikan Doları'na ulaşması beklenmekte, bu ticaretin çok büyük oranda şirketler arasındaki işlemlerden oluşacağı öngörülmektedir Şekil 1.



Kaynak: International Data Corporation
Şekil 1

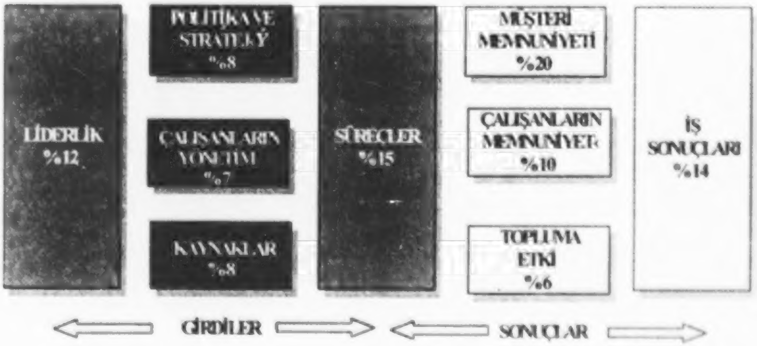
Bu iş hacmini destekleyecek bilgi ağlarındaki gelişmelerin göstergeleri olarak veri trafiğinde yıllık %30 büyüme, Internet ana bilgisayarlarında 1993-1997 arasında 20 kat artış, Internet kullanıcı sayısında beklenilen artıştan (1997'de 7.5 milyon, 2000'de 250 milyon) sözedebiliriz. Bugün bile birçok şirket Internet üzerindeki ticaret olanakları ile büyük başarılar kazanmaktadır. Örnek olarak AMAZON.com yılda 130 milyon dolar, DELL Bilgisayar bir milyar dolardan fazla satışlarını Internet üzerinden gerçekleştiriyorlar. Netaş'ın ana ortağı NORTEL dünyadaki 250 yerleşim biriminde 60.000 masaüstü bilgisayar ve iş istasyonu kullanarak araştırma, üretim etkinliklerini gerçekleştiriyor.

BEST COPY AVAILABLE

Biz bilgi teknolojilerinin yardımı ile yeni pazarlara daha kısa zamanda yeni ürünler sunarak başarımızı sürdürmeyi planlıyoruz. Bu yolda bilgi yönetiminin en önemli unsuru olan çalışanlarımızın sürekli geliştirilmesi şirketimizin en temel yaklaşımlarından birisidir.

2. İŞ MÜKEMMELLİĞİ MODELİNDE ÇALIŞANLARIN VE BİLGİNİN YÖNETİMİ

Avrupa Kalite Yönetimi Vakfı tarafından geliştirilen ve Türkiye'de de kullanılan İş Mükemmelliği Özdeğerlendirme modeli bugün birçok başarılı şirket tarafından uzun dönemli kalıcı başarılar açısından kendilerini değerlendirmek amacı ile kullanılmaktadır (Şekil 2).


LİDERLİK
%12
POLİTİKA VE
STRATEJİ
%8
ÇALIŞANLARIN
YÖNETİMİ
%7
KAYNAKLAR
%8
SÜREÇLER
%15
MÜŞTERİ
MEMNUNİYETİ
%20
ÇALIŞANLARIN
MEMNUNİYETİ
%10
TOPLUMA
ETKİ
%6
İŞ
SONUÇLARI
%14
GİRDİLER
SONUÇLAR

Şekil 2

Model, kuruluşların başarısını etkileyen unsurlar (GİRDİLER) ile, yaratılan başarıları (SONUÇLAR) 9 kriter ve 32 alt kriter altında değerlendirmeye ve yeni gelişme fırsatlarını ortaya koymaya yardımcı olmaktadır. Örneğin konferansın konusu açısından değineceğim "Çalışanların Yönetimi" kriterinin 6 alt kriterinden biri olan "Çalışanların Yeterlilikleri Nasıl Artırılmakta ve Geliştirilmektedir" konusunda değerlendirme yapılabilecek alanlar şunlardır;

- Çalışanların yetkinliklerinin korunması ve geliştirilmesi
- Eğitim planlarının hazırlanması
- Eğitimin etkinliği

BEST COPY AVAILABLE

- Çalışanların deneyim olanakları ve grup çalışmaları ile geliştirilmesi
- Sürekli öğrenmenin özendirilmesi

Öğrenen Organizasyonların 5 temel disiplini (P.Senge, Beşinci Disiplin, Yapı Kredi Yayınları, nisan 1993) açısından İş Mükemmelliği Modelinin bu alt kriteri özellikle kişisel hakimiyet ve takım olarak öğrenme konularına önem vermektedir. Bu konulardaki Netaş deneyimlerini sizinle paylaşırken, sözkonusu yaklaşımın ve yöntemlerin okullarda tanıtılmasının öğrencileri iş yaşamına hazırlamakta sağlayacağı fırsatları düşündürmeyi umuyorum.

3. NETAŞ UYGULAMALARI

3.1 Takım Çalışmaları

Belirli bir görev tanımı çerçevesinde takım oluştururken tanımladığımız bazı temel ilkelerimiz vardır. Takımlara yönetim desteğini sağlamaları için deneyimli bir yönetici hami belirlenir. Takım üyeleri görevin gerektirdiği beceri ve yetenekleri gösteren bir matrikse uygun olarak seçilirler, takım temel çalışma ve uzlaşma kurallarını görüşür ve yazılı hale getirir, ayrıntılı bir iletişim planı yapılır ve gelişmeleri izlemek için gerekli olan başarı kriterleri belirlenir. Takımda belli sorumluluklar tanımlanır (zaman sorumlusu, yazıcı gibi)

Takımların çalışmaları sırasında verimli olabilmeleri için de uzlaşma esas alınır. Küçük uzlaşmaklıklar "Park Alanı"na alınır ve toplantı sonunda hala geçerli ise ve çözülememişse görüşülür. Her toplantı sonucunda takım 6 kriterde kendi çalışma şeklini ve verimliliğini puanlayarak varsa düzeltici önlemleri kararlaştırılır. Takımlar ilerleme ve sonuç raporları yazarak hem görev konusunda yaptıklarını hem de takım olarak çalışma konusunda öğrendiklerini şirketin tümünün öğrenmesine yardımcı olurlar.

3.2 Temel Kalite Teknikleri

Takımların verimli çalışmalarında ve bireysel çalışmalarda temel kalite tekniklerinin kullanılması, esas olarak yenilik önerileri, problemler ve çözümleri için kişiler ve bölümler arasında sistematik bir iletişim ortamı yaratılmasını amaçlamaktadır. Verimli ve sistemli iletişimle önceliklerin belirlenmesi, sorunların temel nedenlerinin anlaşılması, alternatif çözümlerden en iyisinin seçilmesi için şirket içinde uzlaşmaya varılması sağlanmaktadır. Netaş'ta temel kalite teknikleri "Planla-Uygula-Kontrol Et ve Standartlaştır" şeklindeki sürekli iyileştirme döngüsü içindeki kullanım yerleri de belirtilerek eğitimlerle çalışanlara tanıtılmaktadır. Bu tekniklerin mesleki ve teknik eğitim kurumlarında öğrencilere aktarılmasının öğrencilerin kişisel gelişmelerini ve endüstride görev aldıklarında problem çözme süreçlerine etkin katılımlarını sağlayacağına inanıyoruz.

3.3 Yetkinliklere Dayalı Eğitim Planlaması

Netaş'ta kişisel yetkinlikler işe alma ve performans değerlendirme süreçleri yanında eğitim planları için de temel oluşturur. Bu amaçla tüm çalışanlarımızın kullanımı için 22 temel yetkinliği 4 düzeyde tanımlayan bir "Performans Boyutları Sözlüğü" hazırladık. Yıllık performans değerlendirmeleri sırasında kişiler ve yöneticileri gelişmesi gereken yetkinliklere karşılık planlanan eğitimleri gösteren bir matriksten yıllık eğitim kataloğunu da kullanarak o yıl içinde alınacak eğitimleri ve diğer gelişme programlarını belirlerler. Eğitim programlarının bu öncelikler doğrultusunda oluşturulması, iç ve dış kaynakların belirlenmesi, ilk uygulamaların değerlendirmesi ile şirket için gerekli yetkinliklerin kazanılması ve geliştirilmesi sağlanır.

4. MESLEKİ VE TEKNİK ÖĞRETİM İÇİN ÖNERİLER

Okullarda edinilen teknik bilgi ve becerinin giderek çeşitlenmesi ve kısa zamanda yenilenmesi gerekliliği artık öğrencilerin yalnız bu bilgileri değil sürekli öğrenme tekniklerini de kazanmasını gerektirmektedir. Bu görüşten hareketle Mesleki ve Teknik Öğretimin yönetimi için bazı öneriler sıralayabiliriz;

4.1 Endüstri ile ilişkiler

Endüstrinin beklentilerinin anlaşılması ortak programlar yürütülerek öğrencilere gelişme olanakları sağlayabilir.

4.2 İş Mükemmelliği Modelleri

Dünyanın her yerinde geliştirilmekte olan modellerin özellikle çalışanların ve bilginin yönetimi konusundaki beklentileri eğitim planlarına ışık tutacaktır.

4.3 Temel Kalite Teknikleri

Bu teknikler hem bireysel gelişmeyi destekleyecek, hem de öğrencilerin iş yaşamına hızla uyumunu kolaylaştıracaktır.

4.4 Teknoloji Destekli Eğitim

Kişilerin öğrenme özelliklerine uygun, etkileşimli eğitim olanakları değerlendirilmelidir. Okullar bu konuda endüstrinin deneyimlerinden yararlanabilirler.

4.5. Sürekli Öğrenmenin Özendirilmesi

Öğrencilerde ve öğretim kadrosunda yaratılacak birlikte, sürekli öğrenme coşkusu tutarlı programlarla desteklenmelidir.

HAVA KUVVETLERİ KOMUTANLIĞININ EĞİTİMDE TOPLAM KALİTE ANLAYIŞI VE BU KONUDA YAPILAN ÇALIŞMALAR

Ö. FARUK UYSAL
Eğt.Yntc. Ve Öğ.Yet.Ok.K.

1. HV.K.K.LIĞININ TOPLAM KALİTE YÖNETİMİNE (TKY) BAKIŞI

Günümüzde toplam kalite felsefesi toplumun her kesiminde uygulama alanı bulmuş olmasına karşın toplumun gelişmesi ve ilerlemesinde en büyük araç olan eğitim sistemi bu felsefeden yeterince faydalanamamıştır. Ancak, son yıllarda hizmet sektöründe ve özellikle eğitimde toplam kalite yönetimi ile ilgili çalışmalar artan bir ivme kazanmıştır.

Türk Silahlı Kuvvetleri'nde TKY ile ilgili başlatılan çalışmalar kapsamında HV.K.K.lığı da kendi bünyesinde aynı çalışmaları başlatmış ve bu kapsamda kalite güvence sisteminin belgelenmesi amacıyla ıso 9001 ve aqap kalite güvence belgelerinin HV.ikmal bakım merkezleri tarafından elde edilmesi sağlanmıştır. Toplam kalite yönetimi anlayışının gerekli kıldığı tüm faaliyetlerin tüm alanlarda olduğu gibi hava kuvvetleri eğitim sistemini de içerecek biçimde yaygınlaştırılması çalışmaları ISO 9000 kalite güvence sistemi belgelendirme işlemlerini de kapsar biçimde planlı olarak başlatılmış ve halen sürdürülmektedir.

TKY; sürekli iyileştirme, takım çalışması, çalışanların katılımı, sistem yaklaşımı ve istatistiksel süreç kontrolünü içeren bir yaklaşımdır. Bu yaklaşımın temel ilkelerinin işe koşulması organizasyonların üst yönetimlerinin inancını ve desteğini gerektirmektedir. HV.K.K.lığı bünyesindeki tüm yöneticiler de eğitimde toplam kalite yönetimi anlayışına inanmakta ve desteklemektedir.

2. HV.K.K.LIĞI EĞİTİM SİSTEMİNİN YAPISI VE İŞLEYİŞİ

Bir eğitim örgütü aldığı girdilerle, öğrencilerini kasıtlı düzenlenmiş bir eğitim ortamında yetiştirdikten sonra çevreye eğitilmiş bireyler olarak sunar. Hava kuvvetleri komutanlığı çerçevesinde düşünüldüğünde, bir okul eğittiği bireyi kıt'aya ne kadar uygun yetiştirirse amacına o denli ulaşmış olacaktır. Bu amaçla, her okul; girdisini, öğrenme-öğretme etkinliklerini ve eğittiği personelin kıt'adaki durumunu etkileyen tüm öğeleri kıt'aların istekleri doğrultusunda kontrol altında tutarak kıt'aların istediği uygunlukta personeli yetiştirmek zorundadır. Bu düşünceden hareketle eğitim örgütleri eğitimlerini etkileyen tüm öğelerin kıt'anın, diğer bir deyişle müşterinin istekleri doğrultusunda kalitesini garanti etmek istemektedirler.

Bu aşamada, hava kuvvetleri komutanlığınca benimsenen yönüyle, eğitimde kalite nedir? Ve eğitimde kalitenin etkenleri nelerdir? Sorularının yanıtlanması yerinde olacaktır.

Kalite kavramının tanımını eğitim örgütlerine uyarladığımızda eğitimde kalite kavramına yönelik şu tanım yapılabilir. Eğitimde kalite, eğitim etkinliklerinin her aşamasında ve eğitim sürecini etkileyen tüm öğelerinde, öğrenci ve kıt'aların gereksinimlerini ve beklentilerini etkili ve uygun olarak, en ekonomik şekilde karşılamaktır. Bu tanımın özünde iki temel etkenin eğitim kalitesini belirlediğini söyleyebiliriz. Bunlar; gerçek öğrenci davranışlarıyla eğitim amaçlarının uygunluğunu güvence altına alan "eğitimin etkililiği" ve gerçek görev koşullarıyla eğitimin amaçları arasındaki ilişkiye bağlı "eğitimin yararlılığı veya uygunluğu" etkenleridir.

Bir eğitim ya da kurs, amaçları kapsamında yapılması kararlaştırılan etkinlikleri gerçekleştirdiği ölçüde etkilidir. Başka bir deyişle, eğitime katılan öğrenciler amaçlar kapsamında belirtilen davranışlara ulaştıkları ölçüde etkililiğinden söz edilebilir. Öğrencilerin amaçlara ulaşma düzeyleri; öğretmen faaliyetlerinin, eğitim yardımcılarının ve malzemelerinin, eğitim kolaylıklarının, ölçme-değerlendirme faaliyetlerinin yerindeliğine, uygunluğuna ve etkili kullanımı ile öğrencilerin amaçlara ulaşmasını kolaylaştırır; öğrencilerin belirtilen davranışları göstermesine fırsat tanır. Bu tür bir uygulama, eğitimin etkili olduğunun göstergesidir.

Ancak eğitimde etkililik, peşinde koşulan, arzulanan bir nitelik olmasına karşın; tek başına, yapılan yatırımlar için haklı gerekçe oluşturmaz. Bununla birlikte etkili olduğu söylenen bu eğitim sürecinin ortaya koyduğu mezunların, eğitim sonrası görevlendirildikleri ortamın gereklerini yerine getirme düzeyleri nedir sorusunun yanıtlanması gerekir. Bu soru, dikkatleri, eğitimin yararlılığına yöneltmektedir. Eğitim ya da kurs, öğretilecek görev ya da meslekle en çok ilgili olan şeyleri kapsadığı oranda işe yarardır. Verilen eğitim görev gereklerini karşılamayan ya da yerine getiremeyen ürünler verdiği, yani işe yaramadığı sürece, eğitim boşuna yürütülen bir çabadan öteye gidemez.

Öğrencilere kazandırılacak davranışlar, kıt'a gereksinmelerine uygun olarak yapılmalıdır. Yani "eğitimin uygunluğu veya yararlılığı" (müşteri tatmini) sağlanıncaya kadar TKY'nin gerekli kıldığı iyileştirme çevrimi sürekli tekrar edilmelidir. Bu durumda, öncelikle eğitim-öğretim gereksinimleri kıt'a ile okul işbirliği içinde planlanmalıdır. Sonraki aşamada ise eğitim-öğretim gereksinmelerine uygun eğitimin yapılması sağlanmalıdır. Öğretmen nitelikleri, öğretim yardımcıları, eğitim ortamı gibi eğitimin amacına ulaşmasını etkileyen tüm öğelerin uygunluğu ve etkili kullanımının eğitim etkinliklerinin kalitesini etkileyeceği düşünülmeli ve bu nedenle de, bu öğelerin sürekli kontrolü ve geliştirilmesi sağlanmalıdır. Böylece amaçlanan davranışları kazanmış bireyler kıt'alara kazandırılmış olacaktır. Sürekli iyileştirme çevriminin diğer bir halkası olan eğitimin iç ve dış değerlendirilmesinin yapılmasının amacı ise; kıt'anın verilen eğitimden tatmin derecesini yükseltmektir. Sonuçta eğitim sürecindeki hataların farkına varılacak ve TKY'nin "sıfır hata" idealini gerçekleştirmek olanaklı olacaktır. Ancak, sürekli iyileştirme çevriminin durması söz konusu değildir. Çünkü bu çevrime süreklilik kazandırmak, bir taraftan sıfır hatayı yakalamaya hizmet etmekte, diğer taraftan değişen veya yenilenen kıt'a gereksinmelerinin eğitim kurumlarına yansıtılmasını sağlamaktadır. İşte, HV.K.K.lığı sözü edilen bu etkinlikleri, dolayısıyla TKY'nin temel felsefesini uygulamaktadır.

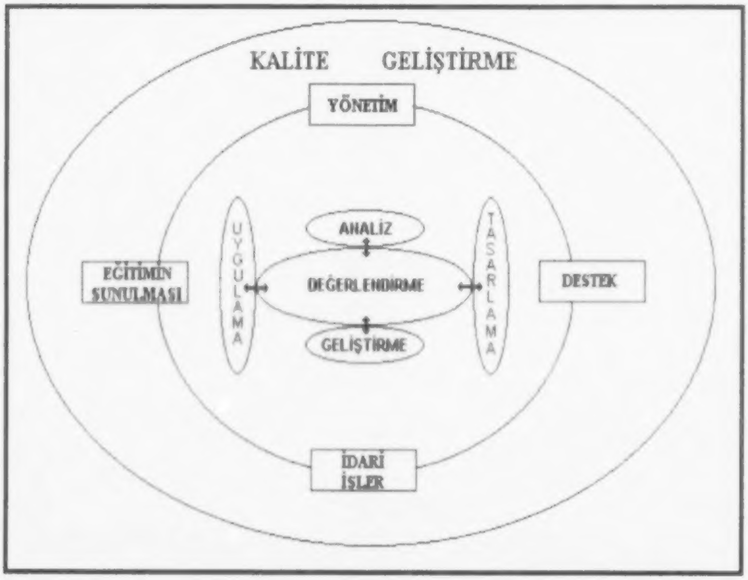
3. YAPI VE İŞLEYİŞİN TKY İLE İLİŞKİLENDİRİLMESİ

Kalite geliştirmenin kusursuzluk arayışına sistemli bir yaklaşım olduğu, bütün kalite geliştirme bilimcileri tarafından kabul edilen bir görüştür. Bu bağlamda eğitimde amaca en verimli şekilde ulaşmak, gereksinim duyulan eğitimi en uygun standartla vermek eğitimde sistem yaklaşımını gündeme getirmektir. Eğitimde sistem yaklaşımı, HV.K.K.lığı eğitim sisteminin toplam kalite anlayışı çerçevesinde yürütülmesini olanaklı kılan bir "model" ile sağlanmaktadır. Bu ise eğitim sistemi geliştirme (esg) modelidir.

Esg, bir kalite geliştirme süreci ya da işlemidir. Eğitim sistemi geliştirme, birbiriyle ilişkili bir dizi işlemi ve her bir işlemin sonunda elde edilen bir dizi ürünü içerir. İşlem ve ürünler sürekli olarak, eğitimde her basamakta gelişmeyi garanti altına alacak şekilde değerlendirmeye tabi tutulur. ESG modelinin süreç ürünü silahlı kuvvetlerin amacı doğrultusunda, çağın gereklerine uygun teknolojik yenilikleri izleyecek ve gerektiğinde muharebe görevini başaracak bireylerdir.

Türk Hava Kuvvetlerinin eğitim sisteminde kullanıldığı ve sistematik problem çözme yaklaşımının temel alındığı esg modeli, yapısına temel olarak kalite kavramını alan bir model olup iki bölümden oluşmaktadır:

EĞİTİM SİSTEMİ GELİŞTİRME MODELİ



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Birinci bölüm; eğitim sisteminin fonksiyonları olarak adlandırılmakta ve

* Yönetim
* Destek
* İdari İşler
* Eğitimin Sunulması Fonksiyonlarını,

İkinci bölüm ise aşamalar olarak adlandırılmakta ve eğitim sistemi geliştirme sürecinin

* Analiz
* Tasarlama
* Geliştirme
* Uygulama

Aşamalarını içermektedir.

Doğal olarak, bu noktada sunulan ESG modelinin, kalite kavramı ile ilişkilerinin belirlenmesi HV.K.K.lığında sürdürülen eğitim - öğretim kalitesinin sağlanması açısından önem arz etmektedir.

Daha önce de belirtildiği gibi, eğitimde kalite, bir yönüyle eğitimde etkililiğe, diğer yönüyle de eğitimde yararlılığa bağlıdır. Özellikle eğitimin işe yararlılığı, etkili eğitim süreci sonunda ortaya çıkacak ürünü kullanacak olan kurumun görüş açısını temel almaktadır. Bu tür bir anlayışla, kalite geliştirme, müşteri / alıcı ilişkisine dayalı, süreç odaklı bir model olarak karşımıza çıkmaktadır. Bu model kapsamında, esg süreci, bir yandan müşterinin gereksinmelerine yönelerek “işe yararlılığı”nı garanti altına almakta, diğer yandan da bu gereksinimler doğrultusunda satıcının “etkili” eğitim sunmasını sağlamaktadır. Kalite geliştirme modelinde esg süreci, müşteri gereksinmelerini “girdi”, bu gereksinmeleri karşılayacak ürünleri “çıktı” olarak kullanmaktadır.

4. SONUÇ

Tüm Türk Silahlı Kuvvetleri için olduğu gibi HV.K.K.lığında da yapılan tüm faaliyetler mutlaka bir yasa, yönetmelik, yönerge veya emir doğrultusunda gerçekleştirilmektedir. Özellikle eğitim sisteminin işlerliğini garanti altına almak için planlama, uygulama ve değerlendirme alanlarında tky felsefesini her alanda yaşama geçiren yönergeler mevcut olup kalite güvence sisteminin gerektirdiği nitelikleri taşımaktadır.

Bu bağlamda, HV.K.K..lığının nitelikli insan gücünün (subay - astsubay) yetiştirildiği HV.TEK.OK.K.lığı bünyesindeki okullardan EYÖYOK'un eğitim faaliyetlerinin kalite güvence sistemi ISO 9002 ile belgelendirilmesi çalışmaları sonuçlanmak üzeredir. Bu da göstermektedir ki; çok önceden kurulmuş olan bu sistem HV.K.K.LIĞINDA eğitimde toplam kalite anlayışının varlığını ortaya koymaktadır.

MESLEK YÜKSEKOKULLARINDA KALİTELİ EĞİTİM İÇİN MÜFREDAT PROGRAMI İLE ATÖLYE VE LABORATUVAR UYUMLULUĞU

THE ADAPTATION OF CURRICULUM WITH LABORATORY& WORKSHOP FOR EDUCATIONAL QUALITY AT TWO-YEAR COLLEGES

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ÖZET

Bilindiği gibi yurt geneline yayılan 500 kadar Meslek Yüksekokulu mevcuttur. Ancak bu okullarımızın fiziki alt yapı, öğretim elemanı ve ders müfredatı yönünden oldukça büyük problemleri mevcuttur. Yine YÖK-D.B tarafından desteklenen şanslı 30 adet Meslek Yüksekokulumuz mevcuttur.[YÖK-D.B. End. Eğt. Proje.] Ancak bu Yüksekokullarımızda dahi laboratuvar ve atölyelerin verimli kullanıldığı söylenemez. Kuşkusuz bu durumun birçok nedenleri bulunmaktadır. Bizim incelediğimiz problem, mevcut müfredatlar ile atölye ve laboratuvarların uyumunun sağlanmasıdır. Bu uyumda dikkate alınacak faktörler, teknikerden istenen temel devinsel ve bilişsel işlemler, mevcut mesleki derslerin kapsamları, laboratuvar ve atölye cihazlarının genel özellikleri olmaktadır. Bu problem, bir program örneği üzerinde incelenerek bazı somut çözümler üretilmiştir.

1. GİRİŞ

Genellikle "tekniker", teknisyen, işçi ve usta sınıfı ile yönetici, mühendis ve işletmeciler arasındaki iletişimi sağlayan ara eleman olarak tarif edilmektedir. [Balcı, 1995] Küçük ve orta ölçekli şirketlerde tekniker şirkette üst teknik personel olabilir ve bu nedenle de liderlik ve yöneticilik rolüne sahip olması gerekmektedir. Bunlardan dolayı tekniker kusursuz teorik bilgiye ek olarak bu bilgi ve beceriyi endüstride uygulayacak yeteneğe sahip olmalıdır.[YOK-DB Pro. Başk.] Dolayısıyla müfredat programlarında, istenen tekniker profilinin ortaya çıkabilmesi için deney ve uygulamalara gerekli ağırlığın verilmesi gerekmektedir.

Teknik kursların çoğu teori ve uygulama unsurları içermektedir. Genellikle öğrencilerin en iyi biçimde yaparak ya da deney yaparak öğrendikleri düşünülmektedir. Diğer bir deyişle, teorik olarak öğretilenleri uygulamaya sokmalıdır. Bununla birlikte öğrenme için sadece deneyim yeterli olmamaktadır. Öğrencinin deneyim üzerinde düşünmesi gerekmektedir ki bunlar yeni kavramları ve fikirleri oluşturacak yeni düşüncelerin doğuşuna fırsat verecektir. (Gibbs, 1987)

Teknik eğitim veren okullarda endüstride oluşan hızlı gelişmeleri takip edebilmek için müfredat programlarının en az beş yılda bir güncelleştirilmesi gereklidir. İlerleyen teknoloji, müfredatlarda en uygun şekilde yer almalıdır. Öğretim elemanları, öğrencilere öğrettikleri konuların mevcut teknolojiye uygun olmasına dikkat etmelidirler. Zaman zaman müfredat yapısını araştırmak, yapıyı mantıklı kılmak, gereksiz konuları çıkarmak ve yeni öğretim konuları ve yöntemleri başlatmak amacıyla müfredatın teknik içeriğinin derinlemesine gözden geçirilmesi gerekmektedir. Geliştirilecek müfredat, yüksekokulların mevcut alt yapısına yani atölye ve laboratuvarlara uygun olmalıdır. Ayrıca proje meslek yüksekokulları arasında oluşturacak bir üst kurum ile "müfredat geliştirme, izleme, değerlendirme ve yenileme" (MGİDY) işlemleri, eğitimde standartlaşmayı sağlayacak şekilde tek merkezden bütün okulların katılımı ile yapılmalıdır.

2. MÜFREDATLARIN GELİŞTİRİLMESİ

Müfredat geliştirilmesinde ilk adım yetiştirilmesi hedeflenen teknikerden beklenen bilişsel ve devinsel işlemlerin ortaya konmasıdır. Ancak bu işlem sanıldığı kadar kolay değildir. Müfredat çalışmaları için yapılan anketlerde, belli bir sektörde faaliyet gösteren firmaların farklı özelliklere sahip tekniker tipi istedikleri ortaya çıkmıştır. [Dipova ve ark. 1996] Dolayısıyla müfredat programlarında sektörün ihtiyacını karşılayacak genel bir çerçeve oluşturmak oldukça güç bir işlemdir. Buna bağlı olarak firmalarla çeşitli vesilelerle yaptığımız görüşmelerde mezun öğrencilerimizin genelde bilgi olarak yeterli fakat beceri olarak yetersiz oldukları yönünde yansımalar alınmaktadır. Bu durum da yüksekokullarımızda uygulamalara gereken önemin verilmediğini göstermektedir.

Müfredat geliştirilmesinde başvurulacak bir diğer kaynak akademik personeldir. Üniversitelerimizde bulunan belli alanlarda uzmanlaşmış öğretim elemanlarından yararlanmak gerekir. Müfredat geliştirilmesinde mevcut Proje Meslek Yüksekokullarında çalışan öğretim elemanlarından faydalanılmalıdır. Çünkü eğitim problemlerini birinci derecede uygulayacak ve değerlendirecek olan onlardır.

Müfredat programlarının geliştirilmesinde [Doğan,1982] tarafından aşağıdaki basamaklar önerilmiştir[6]:

1. Kapsam ve sınırlılıkları belirleme
2. İşlemleri saptama
3. İşlemlerin seçimi ve sıralanması
4. Yeterliğe dayalı amaçları geliştirme
5. Öğretimi düzenleme
6. Ders planlarını hazırlama
7. Öğretim yöntemini seçme
8. Öğretim yapraklarını geliştirme
9. Değerlendirmeyi planlama
10. Uygulama ve sistemi değerlendirme

3. MEVCUT PROBLEMLER

YOK-DB Endüstriyel Eğitim Projesi tarafından 1995-1996 yıllarında proje meslek yüksekokullarındaki yedi adet teknik programda müfredat yenileme çalışmaları yapıldı. Bu çalışmalarda, sanayicilerle, mezun öğrencilerle ve öğretim elemanları ile yapılan anketlerden yararlanıldı. Oluşturulan taslaklar tekrar okullara gönderilerek öğretim elemanlarının eleştirilerine tabi tutuldu ve gerekli düzeltmeler ile taslağa son şekli verilerek okullara gönderildi.

Ancak Türkiye'de 500 civarında Meslek Yüksekokulu bulunduğu düşünülürse proje tarafından desteklenen okullar, toplam okulların on yedide birini oluşturmaktadır. Proje dışında kalan yüksekokullarımızdaki programlarda herhangi bir müfredat programı mevcut değildir. Bu okullarımızda okutulan dersler, bağlı oldukları üniversitelere göre farklılıklar göstermektedir. Bu durum, öğrencilerin yatay ve dikey geçişlerinde sorunlar çıkardığı gibi öğretimin standartlaşmasını da engellemektedir.

Diğer bir problem de müfredat ile atölye ve laboratuvarların uyumunun sağlanmasıdır. Doğal olarak hangi deney cihazının hangi derste öğretileceği, hangi uygulamanın ne zaman yapılacağı müfredatlarda pek açık olarak belirtilemez. Bu problemi gidermek amacıyla müfredat ve mevcut alt yapıyı gözden geçirmek suretiyle bir "deney ve uygulama planı" geliştirilmelidir.

Başarılı bir ara eleman yetiştirmek, mevcut laboratuvar ve çevre imkanlarının en iyi şekilde kullanılması ile mümkün olacaktır. Bu amaçla mevcut laboratuvarların dersler ve öğretim yönünden incelenmesi ve en iyi şekilde analiz edilmesi gerekmektedir. Bu amaçla proje yüksekokullarında laboratuvar çalışmalarını daha verimli hale getirecek ve bütün okullarda uygulanabilecek bir öğretim planı geliştirilmesi yararlı olacaktır. Böyle bir örnek çalışma İklimlendirme ve Soğutma Programları için yapılmış olup aşağıda detayları özetlenmiştir.[Ertürk, 1998]

4. ÖRNEK ÇALIŞMA

4.1 Deneylerin Ve Uygulamaların Derslere Dağılımı

Deney cihazlarının basitten zora doğru sıralanması ve ders müfredatlarına en yakın deneylerin yaptırılması gereklidir. Bu yaklaşıma göre deney ve uygulamaların derslere dağılım için ilk olarak tecrübeye dayalı oluşturulan bir taslak geliştirildi. Bu taslaklar, diğer proje meslek yüksekokullarındaki öğretim elemanlarına ve bu sektörde faaliyet gösteren bazı firmalara gönderildi. Onların eleştirileri doğrultusunda taslak üzerinde gerekli değişiklikler yapıldı. Taslakta dört dönem boyunca öğrencilere yaptırılabilecek deney ve uygulamalar derslere bağlı olarak listelendi. Bu sıralamada derslerdeki teorik konular ile deney ve uygulamaların uyumlu olmasına dikkat edildi. Bu şekilde taslağa son şekli verildi (Çizelge-1) Bu çizelge incelendiğinde deney ve uygulamaların dönem içindeki yoğunluğu dikkati çekecektir. Bu çalışma programının uygulanabilmesi için her programda en az iki öğretim elemanı ve bir teknikere ihtiyaç vardır. Bu tabloda belirlenen işlemler, "soğutma teknisyenliği meslek araştırması" kapsamında belirlenen mesleki becerilerin %80'ini kapsamaktadır.[Işık, 1998]

4.2 Laboratuvar ve Atölye Cihazlarının Müfredatla Uyumu

Laboratuvar ve atölye cihazları incelendiğinde genelde müfredatla uyumlu olduğu görülecektir. Ancak bazı dersler ve uygulamalarda, aşağıdaki eksikliklerin bulunduğu belirlenmiştir:

- Soğutma ile ilgili deney cihazları iklimlendirme deney cihazlarından daha fazla ve daha kapsamlıdır.
- Soğutma deney cihazlarının tamamı buhar sıkıştırmalı soğutma çevrimine sahiptir. Absorbsiyonlu, termo-elektrik, hava sıkıştırmalı, v.b. diğer soğutma çevrimleriyle ilgili deney cihazlarına da ihtiyaç vardır.
- Çizelge-1'den de görüleceği gibi, Isıtma Sistemleri, Havalandırma Sistemleri, Yapı Tesisatı ve Güneş Enerjisi Sistemleri dersleri için herhangi bir deney cihazı mevcut değildir.

- Ayrıca İklimlendirme-Soğutma Elektriği ve Otomatik Kontrol derslerinde kullanılmak üzere Elektrik Kumanda Eğitim Panolarına ihtiyaç vardır.

- Atölyede, caka kenet makinesi, kollu giyotin makas ve çanta tipi ark kaynak makinesi,vb. ihtiyaç vardır.

Çizelge-1 Deney ve Uygulamaların Derslere Göre Dağılım Örneği

DERSİN ADI	HAFTASI	UYGULAMA KONULARI VE DENEYSEL ÇALIŞMALAR
ATELYE İŞLEMLERİ (1. yarıyıl)	2	Matkap bileme
	3	Pafta ve klavuzla diş açma
	4	Ölçme uygulamaları (kumpas, mikrometre)
	5	Tekli havşa yapma
	6	Genişletme yapmak
	7	Boru bükme
	8	Oksi asetilen üflecini yakmak,ayarlamak
	9	Boru bağlantısına yumuşak lehim yapmak
	10	Boru bağlantısına gümüş lehimi yapmak
	11	Oksi-asetilen kaynağı uygulaması (telli dikiş yapmak)
	12	Oksi-asetilen kaynağı uygulaması (telsiz dikiş yapmak)
	13	Ark kaynağı uygulaması

4.3 İşlem Yaprakları ve Deney Föylerinin Hazırlanması

İnsanların deneyimden nasıl öğrendiklerini açıklamak amacıyla Kolb tarafından aşağıdaki öğrenim döngüsü hazırlanmış olup dört aşamadan oluşan bir modeldir. (Şekil 1) "Mesleki-teknik eğitim programları ferdin yapacağı iş esas alınarak tasarlanır. Eğitim programlarının kapsamı, işin sistematik analizine dayalı olarak geliştirilen öğretim envanterinden seçilir. Program geliştirmenin ilk basamağı mesleğin (ferdin yapacağı işin) tanımını yapmaktır. Meslek tanımı, ferdin yaptığı görevin genel bir çerçevesini belirlemesi ve analiz çalışmalarının sınırlandırılması yönünden faydalı olmakla birlikte yeterli değildir. Ferdin yapacağı iş veya görevin öğretilebilecek unsurlar bakımından ayrıntılı analizine ihtiyaç vardır. Mesleki eğitim programlarının kapsamını esas itibariyle işlemler oluşturur. İşlem, işin öğretilebilecek anlamlı bir parçasıdır. Bir işin veya görevin yapılabilmesi için işlemlerin belirli bir sırada yapılması şarttır."[Sezgin, 1989]

Deney föylerinin hazırlanmasında başta deney cihazlarının kullanım kılavuzları ve cihazların temel özellikleri dikkate alınmıştır. Bu konuda daha önce hazırlanan bazı kaynaklardan ve tecrübelerden faydalanılmıştır. [Bulgurcu, 1993] İşlem yapraklarının hazırlanmasında ise daha çok A.B.D.'de Orta Amerika Mesleki Eğitim Birliği'nin İklimlendirme ve Soğutma programları için hazırladığı yayınlardan ve mevcut atölye imkanlarından yararlanılmıştır.[Wantiez,1991]

4. SONUÇ VE ÖNERİLER

Bu çalışma, mevcut müfredata göre laboratuvarlar ve atölyelerden daha verimli şekilde yararlanılması, öğretimde standartlaşma sağlanması ve kaliteli ara eleman yetiştirilmesi hedeflenerek bir örnek çalışma olarak yapılmıştır. Çalışma 1997-1998 Öğretim Yılında Balıkesir Meslek Yüksekokulu İklimlendirme ve Soğutma Programında uygulanmış iyi sonuçlar alınmıştır.

Deneylerin ve atölye işlemlerinin uygulanmasında ve değerlendirilmesinde bazı problemler mevcuttur: Deneylerin 5-6 kişilik gruplar halinde yapılması zorunluluğu nedeniyle zaman problemi olmaktadır. Öğrencilerin atölye işlemlerini ilk defa yapmaları nedeniyle bu işlemlerin değerlendirilmesi zorlaşmaktadır. Deneylerin değerlendirilmesinde hazırlanan raporları referans almak uygun olmamakta, sınavlarda deneylerle ilgili sorular sorulması faydalı olmaktadır.

Çalışmada diğer programlara ait bazı laboratuvarlardan da faydalanılması için bazı deneylerin o laboratuvarlarda yapılması önerilmektedir. Yüksekokul imkanları ile yapılamayacak uygulamalar da belirlenmiş bu uygulamaların Endüstriye Dayalı Eğitim'de (EDE) uygulanması hedeflenmiştir. Ayrıca merkezi iklimlendirme tesisleri, soğuk hava depoları, ısıtma sistemleri ve sektör ziyaretlerinin öğrencilerin görgü ve bilgilerini arttırmada faydalı olduğu bir gerçektir. Bu ziyaretler için çevre imkanları değerlendirilmelidir. Bunun yanında atölye ve tamir işlemleri için çevredeki kuruluşlardan malzeme desteği alınması ve Döner Sermaye kapsamında işler yapılması son derece yararlı olacaktır.

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TÜRKİYE'DE MUHASEBE MESLEĞİ VE EĞİTİMDE KALİTEYİ ARTIRICI ÇALIŞMALAR

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1- GİRİŞ

Gelişmiş ülkelerde daha önceleri başlayan değişim rüzgarları, Türkiye'de 1980'lerin, Doğu Bloku Ülkelerinde ise 1990'ların başından itibaren başlamıştır.

Değişimin sonuçları ticarî alanda da kendini hissettirmiştir. Ekonomik anlamda Liberal düşüncenin estirdiği rüzgarlarla birlikte ülkeler arasındaki karşılıklı ticarî ilişkilerin boyutları tahminlerin çok ötesinde gelişmiştir.

Bu değişim şüphesiz kaynakların adil dağıtımında önemli bir sosyal sorumluluğu olan muhasebecinin de bu gelişmelere uyum sağlayabilecek nitelikte olmasını gerektirmiştir.

Bu çalışmada muhasebe eğitiminin önemi, eğitimde kaliteyi artırıcı çalışmaların neler olduğu ve bu konuda yapılan çalışmalar özetlenmiştir.

2- TOPLAM KALİTE YÖNETİMİ ÇERÇEVESİNDE MUHASEBE MESLEK EĞİTİMİ

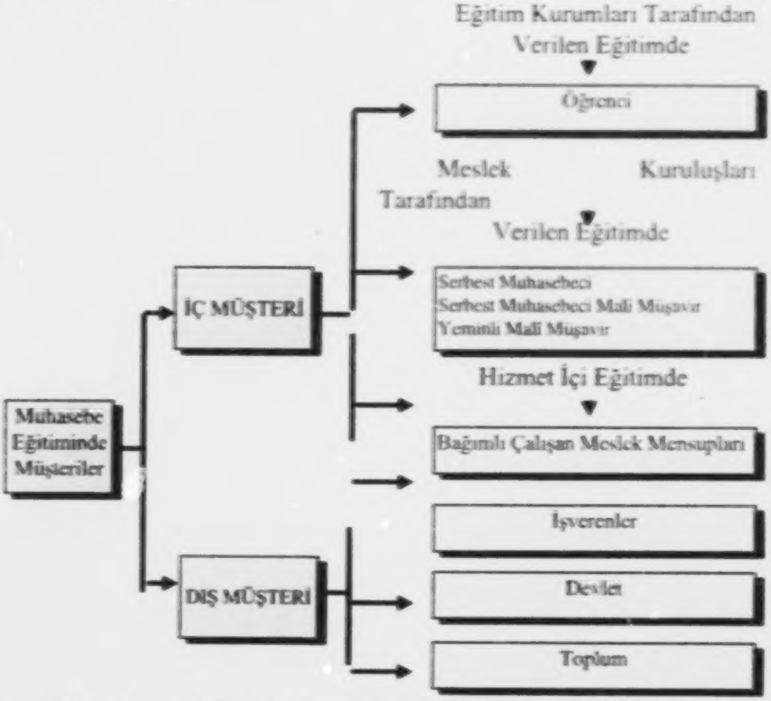
Bilgi toplumunun gerektirdiği nitelikli insan yetiştirilebilmesi her alanda olduğu gibi muhasebe eğitiminde de kaliteyi yükseltmekle mümkündür.

Amerikan Kalite Kontrol Derneği (ASQC) kaliteyi; bir malın ya da hizmetin tüketicilerin isteklerine uygunluk derecesi olarak tanımlamaktadır.

ISO 8042 Kalite Sözlüğündeki tanımda ise "Kalite bir mal yada hizmetin belirlenen veya olabilecek gereksinimleri karşılama yeteneğine dayanan özelliklerin toplamıdır" denilmektedir.

Eğitimde kalitenin geliştirilmesi ürünlerin ve müşterilerin belirlenmesi ve beklentilere göre stratejilerin oluşturulması ile sağlanır. Bunu için de amaçların ve müşteri beklentilerinin belirlenmesi gerekir. Muhasebe eğitimindeki amaç; çağın gerektirdiği uygulayıcı, araştırıcı ve eğitici muhasebe meslek mensuplarının yetiştirilmesidir (Marşap, Kurt, 1996, s.148).

Eğitimde ürün eğitim ve öğretim, müşteri ise üründen etkilenen kişi ve kuruluşlardır (Gündüz, 1995). Toplam kalite yönetimi anlayışında müşteriyi iç müşteri ve dış müşteri olarak iki grupta incelemek mümkündür. **İç müşteri:** kuruluşun içerisinde ürünü veya hizmeti alan kişi veya kuruluş, **dış müşteri** ise kuruluşun ürettiği üründen etkilenen kişi yada kuruluştur (Yükcü 1997, s.280). Muhasebe eğitiminde ise bu ilişki aşağıdaki gibidir.


Eğitim Kurumları Tarafından Verilen Eğitimde
Öğrenci
Meslek Kuruluşları Tarafından Verilen Eğitimde
Serbest Muhasebeci
Serbest Muhasebeci Mali Müşavir
Yeminli Mali Müşavir
Hizmet İçi Eğitimde
Bağımlı Çalışan Meslek Mensupları
İşverenler
Devlet
Toplum
Muhasebe Eğitiminde Müşteriler
İÇ MÜŞTERİ
DIŞ MÜŞTERİ

Şemadan da görüldüğü gibi muhasebe eğitiminde kalite arayışları nihai olarak toplumu etkilemektedir.

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3- MUHASEBE MESLEK VE EĞİTİMİNDE KALİTEYİ ARTIRICI ÇALIŞMALAR

Türkiye'de muhasebe meslek eğitiminde kalitenin artırılması ile ilgili çalışmaların son 15-20 yılda daha da yoğunlaştığı görülmektedir. Mesleki kalitenin artırılması ile ilgili çalışmalar ülkenin ekonomik gelişmesi ile de paralellik göstermektedir.

Mesleki kalitenin artırılması ile ilgili çalışmaları;

- Mevzuatla ilgili çalışmalar,
- Gönüllü kuruluşların ve meslek birliklerinin yaptıkları çalışmalar,
- Eğitim-Öğretimle ilgili çalışmalar,

olarak özetlemek mümkündür.

3.1- Mevzuatla İlgili Çalışmalar

Mevzuatla ilgili en önemli çalışma meslek yasasının çıkarılması ile ilgili çalışmadır. Meslek yasası ile ilgili ilk çalışma ise 1932 yılında yapılmıştır. Aradan geçen 57 yıl içerisinde değişik tarihlerde yasanın çıkarılması için çalışmalar yapılmış ve nihayet 13 Haziran 1989 tarihinde meslek yasası çıkartılabilmiştir. Meslek yasası çıkarılmadan önce ülkemizde herkes muhasebeci olabiliyor ve muhasebe bürosu açabiliyordu.

Gelişmiş bazı batı ülkelerinde meslek yasaları; mesela, İngiltere'de 1870, Fransa'da 1881, ABD'de 1886 yılında çıkarılmıştır.

Mevzuatla ilgili diğer çalışmalar daha çok hesap planları ve finansal tablolarla ilgili standartların oluşturulması için yapılan çalışmalardır.

İlk ciddi çalışma 1972 yılında Kamu İktisadi Teşebbüslerinde uygulamaya konulan "Tekdüzen Hesap Plânı" ile ilgili çalışmadır. İkinci çalışma Sermaye Piyasası Kurulu'nun 1983 yılında yayınladığı "Standart Mali Tablo ve Raporlara ilişkin Esaslar" ile ilgili çalışmadır. Üçüncü ve en kapsamlı çalışma ise 1 Ocak 1994 yılında uygulamaya konulan Maliye Bakanlığı'nca yayımlanan "Muhasebe Sistemi Uygulama Genel Tebliği"dir.

3.2- Gönüllü Kuruluşlar ve Meslek Birliklerinin Yapmış Oldukları Çalışmalar

Muhasebe mesleğinin eğitiminde ve uygulamasında meslek örgütlerine düşen görev son derece önemlidir. Muhasebe meslek örgütleri etki güçlerine göre muhasebe mesleğinin gelişimine önemli katkılar sağlamaktadırlar.

Türkiye'de muhasebecilik mesleğinin gelişmesini sağlayacak düzeydeki bir mesleki teşkilatlanma 3568 sayılı Yasanın çıkarılmasına kadar gerçekleşememiştir. Yasadan önce çeşitli şehirlerde değişik isimler altında teşkilatlanmalar olmuş ancak bunlar dağınık bir halde kalmış ve merkezi bir örgütlenmeye kavuşamamıştır (Marşap, 1995, s. 47).

Türkiye Muhasebe Uzmanları Derneği 1942 yılında "Türkiye Eksper Muhasipler ve İşletme Organizatörleri" adı altında kurulmuştur. Bu derneğin kuruluş amacı muhasebe uzmanları yetiştirilebilmesi, muhasebe uygulamalarına yön verecek temel kavram ve ilkelerin geliştirilip uygulanmasıdır (Selek, 1995, s. 353).

Dernek Uluslararası Muhasebe Standartları Komisyonu (IASC) üyesidir. Uluslararası Muhasebe Federasyonunun (IFAC) kurucu üyesidir.

Ülkemizde Türkiye Muhasebe ve Denetim Standartları Kurulu (TMUDESK) 9 Şubat 1994 tarihinde kurulmuştur. TMUDESK'in amacı; tüm ülkede faaliyette bulunan işletmelerin ve diğer kuruluşların mali tablolarının düzenlenmesini esas olmak muhasebe ilkelerinde tekdüzeni gerçekleştirmektir (TÜRMOB yayın no 32).

3.3- Eğitim-Öğretimle İlgili Çalışmalar

Ülkemizde Muhasebe Meslek eğitimi veren kuruluşları:
Eğitim Kuruluşları,
Mesleki Kuruluşlar,
olarak iki grupta toplayabiliriz.

3.3.1- Eğitim Kuruluşları Tarafından Verilen Muhasebe Eğitiminde Toplam Kalite Yönetimi Açısından Müfredatlara Yönelik Araştırmaların İrdelenmesi

Ülkemizde muhasebe meslek eğitimi veren eğitim kuruluşları şunlardır:

- Ticaret Liseleri ve Maliye Meslek Liseleri,
- Meslek Yüksekokulları,
- Fakülteler.

Ticaret Liseleri: Muhasebe ara elemanı yetiştirmeyi amaçlayan üç yıllık bir programdır. Ticaret Liselerinde verilen meslek eğitiminde müfredatlar bir merkezden hazırlandığı için standarttır. Bu seviyede problem müfredatların gerçek hayattaki gelişmelerin gerisinde kalma noktasında başlamaktadır.

Meslek Yüksekokulları: Birçok alanda olduğu gibi muhasebe alanında da iş dünyasının ihtiyacı olan ara eleman yetiştirmeyi amaçlayan iki yıllık bir program uygulayan Yükseköğretim birimidir. Meslek Yüksekokulları seviyesinde ise dersler ve müfredatlarda bir standartlık yoktur. Çünkü bu standartlığı sağlayacak kuruluşlar yoktur. 100 Meslek Yüksekokulunda yaptığımız araştırmada (Ankete 73 Yüksekokul cevap vermiştir) Yüksekokulların %79.4'ü ortak müfredat programı yapılmasından yana görüş bildirmişlerdir. Yine aynı araştırmada müfredatların güncelliği sorulmuş, Yüksekokullarda müfredatların %65.7'sinde müfredatların güncel olduğu bildirilmiştir. Aynı araştırmada Yüksekokulların sanayi ile ilişkileri sorulmuş ve Yüksekokulların %26.7'sinin sanayi ile hiç işbirliğinin olmadığı görülmüştür (Balcı, Kavak 1996, s. 23-25).

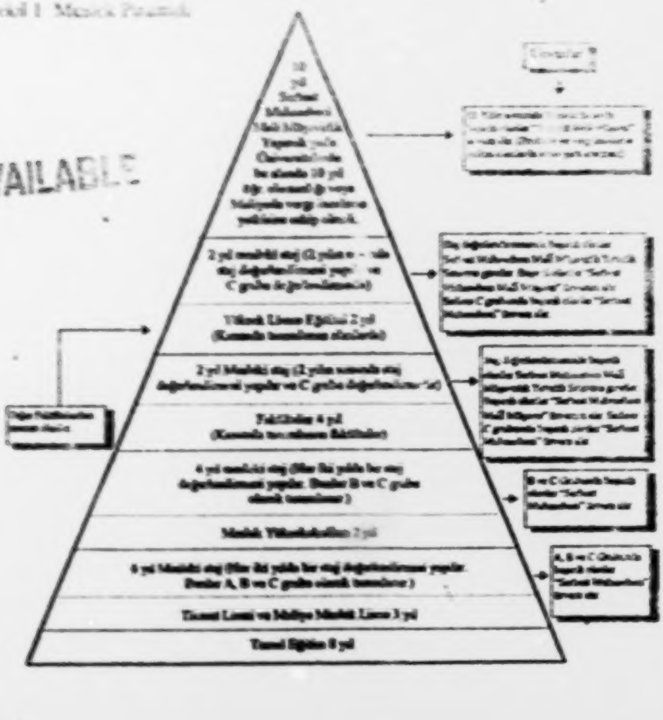
Fakülteler seviyesinde de eğitim-öğretimin kalitesi ve standartlığını ölçen bir uygulama şu an için mevcut değildir. İstanbul'daki Üniversitelerin 3. ve 4. sınıf öğrencileri üzerinde uygulanan bir anketin sonuçları bu konularda bazı ipuçları vermektedir. Öğrencilerin %65.2'si verilen muhasebe eğitiminin kalitesinin iyi olmadığını, %83.7'sinin yeterli staj olanağının bulunmadığını, hatta staj olanağının hiç bulunmadığını söyleyenlerin payı ise %58.1 olarak gözükmektedir. Bu öğrencilerin %50'si muhasebe ile ilgili bir işte çalışmak istediklerini beyan etmişlerdir. Aynı ankette, çalışanların %53'ü Üniversitelerin ilgili fakültelerinde verilen muhasebe eğitimi için ayrılan toplam ders saatlerini yetersiz bulmaktadırlar (Ilgaz, 1996, ss. 29-47).

Anket sonuçlarında ortaya çıkan durum; öğrencilerin, çalışanların ve yöneticilerin kaliteli eğitim-öğretim istedikleri ve öğrencilerin aldıkları eğitimin gerçek hayatla paralellik göstermesi gerektiği şeklinde özetlenebilir.

3.3.2- Meslekî Yeterliliği Ölçen Araştırmaların Eğitim Kalitesi Açısından İncelenmesi

3568 sayılı Kanunun yayımlanmasından sonra, meslek ünvanı verme yetkisi mesleğin üst teşkilatı olan Türkiye Serbest Muhasebeci Mali Müşavirler ve Yeminli Mali Müşavirler Odaları Birliği'ne (TÜRMOB) verilmiştir. Yasaya göre meslek mensupları üç grupta sınıflandırılmıştır. **Serbest Muhasebeciler, Serbest Muhasebeci Mali Müşavirler** ve **Yeminli Mali Müşavirler.** Yasa; muhasebecilik mesleğini serbest olarak icra edecek meslek mensuplarının kanunda belirlenen stajları başarı ile tamamlaması ve sınavlarda başarılı olma şartını getirmiştir. Yasaya göre meslek piramidi aşağıdaki şekilde oluşturulabilir.

Şekil 1: Meslek Piramidi



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Stajlarda ve sınavlarda başarılı olan meslek mensupları mesleği serbest olarak icra edebilirler, başarılı olamayanlar ise mesleği serbest olarak icra edemezler.

Meslek mensuplarının yeterlilik sınavlarına hazırlık, stajyerlerin eğitimi ve meslek içi sürekli eğitim TÜRMOB bünyesinde kurulan Temel Eğitim ve Staj Merkezi (TESMER) tarafından yapılan kurslarla yürütülmektedir. TESMER tarafından yapılan 1992-1996 yılları değerlendirme ve sınav sonuçları mesleki kalite açısından bir fikir verebilir. (Soruların mesleki kaliteyi ölçtüğü noktası analiz edilmelidir)

3.3.2.1- Serbest Muhasebecilik Staj ve Bitirme Değerlendirmeleri

Serbest Muhasebeci adayları iki yılda bir yazılı staj Ara Dönem Değerlendirmeleri ve staj sonunda Staj Bitirme Değerlendirmesine tabi tutulurlar. Bu değerlendirmeler üç grup halinde yapılır.

A ve **B** grubu, staj ara dönem değerlendirmeleri, **C** grubu ise staj bitirme değerlendirmesidir.

Tablo 1: A, B ve C Grubu Staj Bitirme Değerlendirmelerine Giren Stajyerlerin Yıllara Göre Başarı Dağılımı

Yıllar	A Grubu						B Grubu						C Grubu					
	Başarılı		Başarısız		Katılan		Başarılı		Başarısız		Katılan		Başarılı		Başarısız		Katılan	
	Sayı	%	Sayı	%	Sayı	%	Sayı	%	Sayı	%	Sayı	%	Sayı	%	Sayı	%	Sayı	%
1992	158	92	14	8	172	5	82	91	8	9	90	3	230	58	154	42	384	7
1993	215	43	285	57	500	13	169	48	183	52	352	11	234	23	766	75	1000	21
1994	346	48	368	52	714	19	229	42	317	58	546	16	368	37	628	63	996	20
1995	416	42	564	58	980	26	387	43	495	57	882	26	360	29	863	71	1223	25
1996	504	35	923	65	1427	38	607	40	914	60	1521	45	702	56	555	44	1257	26
G.Tp	1639	43	2154	57	3793	100	1474	43	1917	57	3391	100	1894	39	2966	61	4860	100

Kaynak: TÜRMOB 1996-1997 Çalışma Raporu

Özellikle A ve B grubunda yıllar itibarıyla başarı oranlarında ciddi düşüşlerin olduğu görülmektedir. C grubundaki başarı durumunda ise 1996 yılına kadar düşüş, 1996 yılında ise ciddi bir yükselme gözlenmektedir. C grubundaki bu artışın sınava girenlerin eğitim düzeylerinin yükselmesi ile açıklanabileceği yorumu yapılmaktadır (Bayazıtlı, Sayılgan, 1997, s. 43).

3.3.2.2- Serbest Muhasebeci Mali Müşavirlik Mesleki Yeterlik Sınavı

3568 sayılı Kanuna ve ilgili Yönetmelik hükümlerine göre lisans ya da lisansüstü düzeyde öğrenim görmüş ve 2 yıllık staj süresini başarı ile tamamlamış adayların girebileceği sınavlardır.

Tablo 2: Serbest Muhasebeci Mali Müşavirlik Mesleki Yeterlilik Sınavına Girenlerin Yıllar İtibarıyla Dağılımı

Yıllar	Sınava Giren	Başarılı	Başarı %'si
1992	308	76	25
1993	1990	569	29
1994	2332	702	30
1995	2920	596	20
1996	3714	935	25

Kaynak: TÜRMOB 1996-1997 Çalışma Raporu

3.3.2.3- Yeminli Mali Müşavirlik Mesleki Yeterlik Sınavları

3568 sayılı Kanun ve ilgili Yönetmelik hükümlerine göre yeminli mali müşavirlik sınavına katılabileceklerin girebilecekleri sınavlardır.

Tablo 3: Yeminli Mali Müşavirlik Mesleki Yeterlik Sınavına Girenlerin Yıllar İtibarıyla Dağılımı

Yıllar	Sınava Giren	Başarılı	Başarı %'si
1992	7	3	43
1993	123	51	41
1994	210	45	21
1995	328	40	12
1996	304	43	14

Kaynak: [illegible] [illegible], 1997 s.61

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Yeminli mali müşavirlik sınavında da başarının % 43'lerden % 12'lere kadar düştüğü görülmektedir.

TÜRMOB tarafından yapılmakta olan meslekî sınavlardaki başarı oranları ölçü alındığında muhasebecilik meslek eğitiminin kalitesi tartışılmalıdır. Kaliteyi ölçen kriterlerin yeterliliği konusunda eğer bir fikir birliği oluşturuluyor ise eğitim kalitesinin ne seviyede olduğunu anlamak zor değildir. Ancak yapılan araştırma sonuçlarına göre sınavlarda; serbest muhasebecilik ve mali müşavirlikte muhasebenin ağırlığı %16.66, verginin ağırlığı %16.66, diğer konuların ağırlığı %66.68; yeminli mali müşavirlikte muhasebenin ağırlığı %14.66, verginin ağırlığı %29.32, diğer konuların ağırlığı %56.02 olarak gözükmektedir. ABD uygulamasında muhasebenin ağırlığı %70, verginin ağırlığı %5, diğer konuların ağırlığı %25 olarak gözükmektedir (Örten, 1992, ss. 122-123).

4- SONUÇ VE ÖNERİLER

Teknik konulara tutsak olmuş, doğal olmaktan uzak bir muhasebe meslek mensubunu düşünmek bile mümkün değildir. Böyle düşünmek muhasebenin ne olduğunu bile bilmemek demektir (Olivero, 1992, s. 42). Gerçekte uzmanlaşmış muhasebeci, işletmenin dışında olan ve işletmeyi yönlendirici rol alan ilk kişidir. Çünkü muhasebeci, muhasebe bilgi sistemi aracılığıyla işletmenin durumunu topluca kavrama yeteneğine sahiptir.

Kaliteli bir eğitim almamış ve kendini yetiştirememiş bir meslek elemanı bu vasıflardan yoksun olacaktır. Bu bakımdan toplam kalite yönetimi anlayışı içerisinde, muhasebe meslek eğitiminin kalitesinin artırılması gerekir. Bunun için;

- Muhasebe eğitiminin amacının belirlenmesi,
- Program içeriklerinin belirlenmesi,
- Eğitimde sapmalar varsa bunların nedenlerinin araştırılması,
- İlgili grupların beklentilerinin belirlenmesi,
- Meslek bilincinin yerleştirilmesi,

gerekir.

Bununla birlikte; meslek mensuplarının yetiştirilmesinde uluslararası standartlar göz önünde bulundurularak meslekî eğitim veren kuruluşlar arasında işbirliği yapılmalıdır. Meslek mensuplarının staj ve yeterlilik sınavlarında üniversiteler ile işbirliği yapılmalıdır. Sosyal sorumluluk kavramı gereği ancak kaliteli bir meslek elemanı toplumsal faydaya katkı sağlayabilir.

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İŞVERENLER NE İSTİYORLAR ? KALİTELİ GENÇ İŞGÜCÜ YETİŞTİRMEDE MESLEKİ TEKNİK EĞİTİM KURUMLARINDAN BEKLENTİLER

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Özet

Eğitilmiş işgücü kalitesini artırmada işverenlerin bakış açısını ortaya koyan ve Ankarada bulunan küçük ve orta ölçekli işletme sahiplerinin veya işveren vekillerinin görüşlerini değerlendiren araştırma sonuçları verilmektedir. Araştırmada işverenlerin işgücü kalitesinden anladığının, geleneksel olarak anlaşıldığı gibi ilk akla gelen mesleki beceriler olmayıp önceliğin mesleki tavır ve alışkanlıklarda olduğu belirlenmiştir.

Abstract

In increasing trained work-force, research results which show employers' point of view and evaluates the views of owners or their deputies of small and medium scale enterpries are given. In this research, the employers' expectations from the quality of work-force has been determined not as skills of profession, as understood traditionally but as attitutes and habitudes of profession.

Giriş

Bilim ve teknolojide yaşanan hızlı gelişmeler bilgi patlamasına yol açmıştır. Bilgi üretimindeki bu yoğunluk ve hızlılık insan yaşamını tüm yönleriyle etkilemektedir. Günümüzde bilgi yoğun sanayiler ve ileri üretim metodları hızlı kalkınmanın belirleyici unsurları durumundadır.Bu yeni döneme ayak uydurabilmek bilim ve teknolojiden tam olarak faydalanıp, insanımızı doğru içerik, yöntem ve tekniklerde çok yoğun bir şekilde eğitime tabi tutmakla mümkün olabilir. Bu kapsamda bir eğitimide sadece devlet imkanları ile sağlamanın güçlüğü ortadadır. İş hayatının eğitim sürecine katılımı ve katkısının sağlanması günümüz rekabet ortamında sürdürülebilir kalkınmanın temel şartı olarak görülmektedir (Delors, 1997).

Eğitime iş hayatının katkısının sağlanmasında devletin yaptığı tek taraflı düzenlemeler beklenen sonuçları tam olarak vermemektedir. Nitekim, 3308 sayılı yasanın işletmelerin eğitime katılmaları için meslek lisesi 2. ve 3. sınıf öğrencileri ile çırakların bazı sigorta pirimlerini ödeme, öğrenci ve çırak istahdam eden işletmelere bazı alanlarda vergi indirimi düzenlemelerine rağmen, okul işletme arasındaki ilişkilerde hala önemli darboğazlar yaşanmaktadır (Mess, 1996).

Okul-işletme işbirliğinde, işverenlerden artan bir şekilde bu işbirliğine katılmaları istenmektedir. Ancak onaların bu işbirliğinden ne bekledikleri çok nadiren sorulmaktadır. Bu organizasyonda toplumun ve bireyin eğitim ihtiyaçları önplanda görülmektedir. Yeni dünya düzenin gereği değişen üretim ilişkilerinde, işverenlerin çalışanlarda ne tür beceriler aradıkları, bekledikleri becerilere sahip çalışanları yetiştirmede okullara ne oranda güvendikleri araştırmaya muhtaç konulardır. Bu makalede, işverenlerin kaliteli işgücünün yetiştirilmesinde aradıkları öncelikleri belirlemeye yönelik bir araştırmanın sonuçları verilmektedir.

Amaç

İşgücünde aranan kalite ve okul-işletme işbirliği konusundaki tartışmalar okulların başarısı ya da başarısızlığı üzerinde odaklanmaktadır. Bu çalışma işverenlerin ne yaptığı ve istediği sorusu üzerinde yoğunlaşarak aşağıdaki sorulara cevap aranmıştır.

1. İşverenler hangi durumlarda eğitime yatırım yapıyor, hangi konularda eğitim sağlıyorlar ve eğitime ihtiyaç doğduğunda bu eğitimi nereden sağlıyorlar?

2. İşletmeler yeni teknolojilere ne oranda yatırım yapıyor ve bunun gerektirdiği beceri ihtiyacı nedir?

3. İşe eleman alırken öğretmen tavsiyesinin, okulun adının veya okul bitirme derecesinin önemi var mıdır?

4. Halen çalışanların işlerindeki yeterlik düzeyi nedir?

Yöntem

Araştırmada veriler Ankarada bulunan çeşitli sektörlerde mal ve hizmet üretiminde bulunan seksen küçük ve orta boy işletmedeki işveren ya da işveren vekili ile yapılan mülakatlar ve anketler yoluyla toplanmıştır.

Bu araştırmada mülakat yapılan işverenlere, çalışmanın amacı açıklandıktan sonra istihdam ettikleri işçilerle ilgili görüşleri, kendi işyerlerinde hangi konularda eğitim verdikleri, işe eleman alırken aradıkları özellikler ve verdikleri öncelikler konusunda mülakat formlarına görüşleri alınmıştır. Değerlendirilen görüşler yüzde ve aritmetik ortalamalarla yorumlanmıştır.

Tartışma

Ekonomide hızlı gelişme ve yeni teknolojilerin kullanımının artması, işverenleri üretim hatlarında değişikler yapmaya, son teknoloji ürünü yeni makine ve ekipmana yatırım yapmaya zorlamıştır. Bu durum, halen işletmelerde çalışanların sahip oldukları becerilerin geçerliliğini kısa zamanda yitirmesine neden olurken yeniden eğitim ihtiyacını da gündeme getirmiştir.

Yapılan araştırmada, işlşetmelerin yüzde 45'nin 4 yıl ve daha yeni makina-ekipman kullandığı ve yönetici konumunda olmayıp vasıflı ve yarı vasıflı işçi olarak çalışanların yüzde 38'nin, çeşitli makine ve ekipman üzerinde monteli veya doğrudan kişisel bilgisayar kullandıkları belirlenmiştir. Yeni teknolojilerin yoğun kullanımına bağlı olarak çalışanların işlerindeki yeterlik durumunu işverenler gözüyle değerlendirilmesi Tablo-I'de verilmiştir.

Tablo-I: İşverenlerin çalışanların işlerindeki yeterlik düzeyi hakkındaki görüşleri

İşcilerin yeterlik yüzdesi (%)	İşverenler (%)
% 75 ve daha az	% 42
% 76 ila % % 85 arası	% 14
% 86 ila % 95 arası	% 24
% 96 ve daha fazla	% 20

Bu tablodan anlaşılacağı üzere işverenlerin yüzde 42'si halen istihdam ettikleri çalışanların yeterlik düzeyinin yüzde 75 ve daha aşağı olduğu görüşündedir. Çalışanların yeterlik düzeyinden tam olarak memnun olan işverenler ise beşte bir düzeyindedir. Bu oranlar, işverenlere göre çalışanların büyük bir kesiminin yeniden eğitim ihtiyacı içinde olduğunu gösteriyor.

İşletmelerin nadiren bulunan ve ihtiyaç duyulan çok özel eleman ihtiyaçları dışında doğrudan eğitim yatırımı yapmadıkları belirlenmiştir. Ancak dışardan çeşitli yöntemlerde eğitim sağlama yollarının yaygın olarak kullanıldığı anlaşılmaktadır. İşletmedeki çalışan sayısına bağlı olarak işletmelerin yüzde 65'nin işletme dışına eğitim için elaman gönderme veya dışardan eğitim hizmeti satınalma şeklinde formal eğitim sağladığı, buna karşı yüzde 92'nin ise işbaşında çeşitli yöntemlerle informal eğitim verdiği belirlenmiştir (Tablo II).

Tablo II: İşletmelerin eğitim verme izledikleri yöntem

İşletme boyutu (çalışan sayısı)	Formal eğitim (%)	İşbaşında eğitim (%)
Bütün işletmeler	63	90
2 - 10 arası işçi çalıştıran	35	93
11 - 49 " "	52	85
50 - 99 " "	85	92
100 - 249 " "	90	90
250 - > " "	99	94

Tablo-II 'de görüldüğü gibi işletme boyutu yani çalışan sayısı arttıkça, eğitim yoluyla çalışanların beceri seviyesini yükseltme faaliyetleri artış göstermektedir. Bütün işletmelerin yarıdan fazlasının (%63'nün), halen istihdam ettikeri personele çeşitli yollardan eğitim verme ihtiyacı içinde oldukları düşünülebilir.

İşletmelerin çalışanlara hangi konularda eğitim sağladığı sorusuna alınan cevaplar, mesleki ve teknik eğitimden beklentilere ışık tutacak diğer önemli bir veriyi oluşturmaktadır. Bu soruya alınan işverenlerden alınan cevapların dağılımı aşağıda Tablo-III'de verilmiştir.

Tablo III: İşletmelerde verilen eğitimin konusu

Eğitim Konusu	Öncelik Sırası
İş-işyeri güvenliği ve işçi sağlığı	1,9
Satış ve müşteri ilişkileri (fatura düz., sipariş, satış sonra. hiz. vb.)	1,7
Bilgisayar ve yeni ekipmanların kullanımı	1,7
Üretim yöntem ve teknikleri	1,5
Ekip çalışması ve problem çözme	1,2
Bakım, onarım, arıza giderme	1,1
Yabancı dil eğitimi	1,1
Okuma-yazma ve matematik becerileri	0,3

0=Hiç 1=Az 2=Biraz 3=En Fazla

İşletmelerin en çok işgüvenliği konusunda eğitim verdikkleri gözleniyor. Sonra sırasıyla işyeri, tutum ve davranışlara ilişkin satış işlemleri veya müşteri ilişkileri, bilgisayar ve yeni ekipman kullanımı konusunda eğitim düzenledikleri görülüyor.

İşletmeler ile okullar arasındaki işbirliğinin ne derecede sağlıklı işlediğini gösterecek iki önemli gösterge vardır. Bunlardan birincisi, "işletmelerin eğitim ihtiyacı duyduğunda bunu nereden ve hangi organizasyondan sağlıdığı", ikincisi ise, "işletmeler istihdam edecekleri kişileri işe alırken aday çalışanın okuldaki başarısını, aldığı eğitimi ne derecede dikkate aldığıdır". İşletmelerin eğitim ihtiyaçlarını karşılama yolları aşağıda Tablo-IV'de verilmiştir.

Tablo IV: İşletmelerin eğitim sağlama yolları

Eğitimi sağlanan kaynak	Faydalanma Oranı %
Makine- ekipman, araç- gereç satıcıları	68
Özel kişi ya da kurumlar (Yurt içi ve yurtdışı özel kurslar, imkanları daha iyi olan başka işletmeler, özel danışmanlık firmaları)	36
Küçük ve Orta Ölçekli İşletmeler Daire Başkanlığı (KOSGEB)	18
İşçi ve işveren sendikaları, meslek kuruluşları	15
Üniversiteler ve meslek yüksek okulları	15
Çıraklık eğitim merkezi	13
Teknik ve Endüstri Meslek Liseleri	5
Diğer	20

Tablo-IV'de görüldüğü gibi eğitim ihtiyacı doğan işletmeler, en son eğitim kurumlarına gitmektedirler. Halbuki üniversiteler ve eğitim kurumları bu işbirliğine her zaman açık olduklarını her zaman belirtiyorlar. Bu problemin temelinde işletmelerin okullara bakış açısının yattığı söylenebilir. Bunun açık göstergesi işverenlerin işe eleman almada aradığı özelliklerde görülmektedir (Tablo-V).

Tablo V: İşverenlerin İstihtamda Dikkat Ettiği ve Aradığı Özellikler

İşe Başvuran Adayda Aranan Özellik	Öncelik Sırası
Adayın tutum ve davranışı, iletişim becerileri	4,7
Daha önceki iş deneyimi	4,6
Askerlik yapıp yapmadığı	4,3
Halen işyeri çalışanlarının tavsiyesi	4,1
Eski işyerinin tavsiyesi	4,1
Endüstri kuruluşlarına verilen belge, beceri sertifikası ve diğer dökümanlar	3,6
Bitirdiği okul türü ve yılı	3,2
İşe girildiğinde istenen ücret	3,2
Yapıldıysa işe giriş sınavı veya mülakat sonucu	2,4
Okuldaki yönetici ve öğretmen tavsiyesi	1,3
Okuldaki başarısı ve okul bitirme derecesi	1,2

İşverenler işe eleman alırken, adayın işe karşı geliştirdiği tavrı en önemli özellik olarak görüyorlar. İş hayatına en üst pozisyonda başlamak isteyen, mavi gömlekli iş yerine beyaz yakalı iş isteyen, işe devamda ciddi olmayan, işi benimsemede disiplin ve otoriteye saygılı olmayan işçi adaylarını hangi mesleki becerileri ve özellikleri olursa olsun istihdam etmek istemiyorlar. Geçmiş iş deneyimine çok önem veriyorlar. Okulu henüz bitirmiş, çalışma hayatı deneyimi olmayan kişileri ilk işe alan işveren olmak istemiyorlar. Bu da iş ve işyeri kültürünün okulda döneminde öğrenciye kazanılamadığı şeklinde yorumlanabilir. İşverenler bireyin bir iki değiştirip, askerliğini yaptıktan sonra istenen özelliklere ulaştığını düşünüyorlar ve istihdamda daha önce alanında bir iki işte çalışmış olmayı öncelikle arıyorlar.

Okul bitirme derecesi ve öğretmen tavsiyeside çok önemli görülmüyor. Bu durum, okullarda işverenlerin görüş açılarını dikkate alan düzenlemelerin öncelikle yapılmasını, işverenlerin okullarda öğrenci değerlendirme faliyetlerine katılımlarının sağlanması, istihdam ve eğitimde verimliliğin arttırılması açısından önemli görülebilir.

Sonuç ve öneriler

Bu araştırmada, işverenlerin işgücünün kalitesi konusundaki görüşleri kendilerinin yüksek sesli düşünceleri olarak ortaya konulmaktadır. Bu görüşlerin bazıları sürpriz değildir ve kamuoyunca bilinmektedir. Ancak en çarpıcı bulgu okulların ve işletmelerin bazı alanlarda işbirliği yapıyor olmalarına rağmen aynı dili konuşmuyor olmalarıdır. İşletmede eğitime ihtiyaç duyduklarında mesleki okullar başvurdukları enson yerler olarak görülmektedir. Okulllar ile işletmeler arasındaki işbiriğinin arttırılması ve daha gerçekçi zeminlere oturtulması gerekmektedir. İşletmeler gelecek çalışanı konumunda olacak öğrencilerin okullarındaki eğitimi ölçme ve değerlendirme faaliyetleriyle daha ilgili olmaları için eğitim yöneticilerinin gerekli önlemleri almaları gerekir. İşletmelerin eğitim ihtiyaçlarını okullardan gidermeleri için gerekli işbirliği ve eğitim politikaları oluşturmalıdır.

Kaynakça

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IVETA 98 CONFERENCE PROGRAMME

31 AUGUST 1998–MONDAY				
9:00-10:30	Registration and Coffee/Tea/Refreshments			
10:30-12:00	OPENING CEREMONY			
12:00-13:30	LUNCH			
13:30-15:00	CHAIR:Jean D. MATHEWS	PLENARY SESSION (CONFERENCE HALL A)		
13:30-14:00	Paddy CARPENTER (BELGIUM)	Achieving Quality Through Transnational Co-operation : Some European Perspectives		
14:00-14:30	Johanna LASONEN (FINLAND)	Improving Quality of Vocational Education Through International Collaboration and Comparision		
14:30-15:00	Stuart NIVEN (SCOTLAND-UK)	In Pursuit of Quality Vocational Education and Training : Some International Perspectives		
15:00-15:30	Coffee/Tea/Refreshments			
	PARALLEL SESSION			
	CONFERENCE HALL (A)	ROOM B	ROOM C	ROOM D (T)
	CHAIR:Dun HULL	CHAIR:Leila LAHTI	CHAIR:Cavid KAVCAR	CHAIR:İlhan SEZGİN
15:30-16:00	Kumar BASU (INDIA)	Carolyn PRESCOTT Frank JENNINGS (U.S.A.)	Mark MERİCKEL - Darmi DAUD (U.S.A. - INDONESIA)	Hüseyin ŞALVARLI (TÜRKİYE)
16:00-16:30	Edgar FARMER (U.S.A.)	Maria KRASKA (U.S.A.)	Lai FONG HO (HONG-KONG)	Coşkun BAYRAK - E. AĞOĞLU (TÜRKİYE)
16:30-17:00	Derek BOARDMAN (HONG - KONG)	Julie GREVELE (U.S.A.)	Shyamal MAJUMDAR (INDIA)	Mehmet Nuri BODUR (TÜRKİYE)
17:00-17:30	David CHOU - Tien J. CHANG (TAIWAN)	Hsi Chi HSIAO - Jean Chia CHANG (TAIWAN)	S. MISTIKOĞLU - S. ÖRNEKTEKİN (TÜRKİYE)	İrfan ÇAĞLAR (TÜRKİYE)

IVETA 98 CONFERENCE PROGRAMME

01 SEPTEMBER 1998, TUESDAY

	Chair : Dar CHIN RAU	Plenary Session
09.00 – 09.30	Hıfzı DOĞAN (TURKIYE)	Impoving Quality of Vocational and Technical Education inTürkiye
09.30 – 10.00	Dennis GUNNING (SCOTLAND-U.K)	The Scottish Quality Management System
10.00 – 10.30	Guenter ROESCH (GERMANY)	Accredation of Technical and Vocational Education and Training in Germany
10.30 – 11.00	Coffee / Tea / Refreshments	

PARALLEL SESSION

	CONFERENCE HALL A	ROOM B	ROOM C (T)	ROOM D (T)
	Chair:Johanna LASONEN	Chair:Jeanette R. DAINES	Chair :Kazım TÜLÜCÜ	Chair :Hüseyin ÖĞÜT
11.00 – 12.30	PANEL PRESENTATION George COPA/Bruce JILK (U.S.A.) (U.S.A.) Sharon GROSSBACH (U.S.A.) Tom DE GRAAFF (NETHERLAND)	Harun BATIRBAYGİL (TÜRKİYE)	Necmettin YEŞİLMEN (TÜRKİYE)	Zerrin AYVAZ (TÜRKİYE)
		Seval FER (TÜRKİYE)	Perrin ÜNAL-Bilhan BOYNUKISA (TÜRKİYE)	Aytekin ERDEM-A AÇIKGÖZ (TÜRKİYE)
		Şerif GÜNEŞ (TÜRKİYE)	Oğuz ZENGİNGÖNÜL (TÜRKİYE)	Neriman ARAL- Aynur BÜTÜN (TÜRKİYE)
12.30 – 13.30	LUNCH			

13.30 – 15.30	Chair:Stuart NIVEN	PLENARY SESSION
13.30 – 14.00	Don HULL (U.S.A.)	Vocational Technical Education Reform in Tech. Prep:What is Succesful ? What is not Succesful?
14.00 – 14.30	Anne L. MATTHEWS (U.S.A.)	Changing Face Of Vocational Education in the United States
14.30 – 15.00	Jeanette DAINES (U.S.A.)	Quality Assurance Issues in Flexible Programming
15.30 – 15.30	Mark MERİCKEL (U.S.A.)	Designing World Wide Web Courses And Vocational Education And Training Programs
15.30 – 16.00	Coffee / Tea /Refreshments	

PARALLEL SESSION

	CONFERENCE HALL A	ROOM B	ROOM C (T)	ROOM D (T)
	Chair:Philip LOOTS	Chair:Tuula LAMPINEN	Chair:Doğan ABUKAY	Chair:Asaf VAROL
16.00 – 16.30	Pan Wook KIM (SOUTH KOREA)	Robert NORTON (U.S.A.)	Gülgün BANGUR (TÜRKİYE)	Mehmet SÜHEYİL CIYAN (TÜRKİYE)
16.30 – 17.00	Chau CHİH YANG (TAİWAN)	Robert NORTON (U.S.A.)	Nermin FENMEN-Meltem FERENDECİ (TÜRKİYE)	Rahi KILIÇ (TÜRKİYE)

IVETA 98 CONFERENCE PROGRAMME

02 SEPTEMBER 1998, WEDNESDAY

	Chair Kumar BASU	**Plenary Session**		
09.00 – 09.30	Dar CHEN BAU and C.W. LIAO (TAIWAN)	The Evolution and Survery to the Needs of Practical Facilities Required by Industrial Departments for Voc. Schools in Taiwan		
09.30 – 10.00	Rita SEVER (ISRAEL)	Quality Assurance and Occupational Competence of Intercultural Bridgemaker in Vocational Education		
10.00 – 10.30	Philip LOOTS (SOUTH AFRICA)	Critical Analysis of the Restructing of Further Education for Employment and a Lifetime of Learning in New South Africa		
10.30 – 11.00	Coffee / Tea / Refreshments			
	PARALLEL SESSION			
	CONFERENCE HALL A	**ROOM B**	**ROOM C (T)**	**ROOM D (T)**
	Chair Sabahattin BALCI	Chair Nahmias SHLOMO	Chair Maria KRASKA	Chair Selçuk MISTIKOĞLU
11.00 – 11.30	Riitta Liisa REITERA, Paula MATTILA (FINLAND)	Rıza GÜRBÜZ (TÜRKİYE)	Bora ÇAĞLAR (TÜRKİYE)	Hıfzı DOĞAN-Ferda AKGÜL Demet H. SOMUNCUOĞLU (TÜRKİYE)
11.30 – 12.00	Clarence E. BURDETTE (U.S.A.)	Tuula IKONEN (FINLAND)	Mukrime ŞİMŞEK - Birol AKYÜZ (TÜRKİYE)	Derya YILMAZ-Ahmet TURMEN (TÜRKİYE)
12.00 – 12.30	Ruhi KAYKAYOĞLU (TÜRKİYE)	Matt NQUI and Ray GRANNALL (AUSTRALIA)	Nuran ZENGİNGÖNÜL – Müjgan BAYSAL) (TÜRKİYE)	Ruşen YAMAÇLI – Leyla TOKMAN (TÜRKİYE)
12.30 – 13.30	LUNCH			
	PARALLEL SESSION			
	CONFERANCE HALL A	**ROOM B**	**ROOM C (T)**	**ROOM D (T)**
	Chair :Derek BOARDMAN	Chair :Necdet BAŞTÜRK	Chair :Veli ÇELİK	Chair :Hüseyin TOKAY
13.30 – 14.00	Sabahattin BALCI (TÜRKİYE)	Raphael BERDUGO (FRANCE)	Seçil ŞATIR (TÜRKİYE)	Adil KAHRAMAN (TÜRKİYE)
14.00 – 14.30	Hayrettin KARCI (TÜRKİYE)	Charles SOL, M. BLOCH, J. M. PAJOT (FRANCE)	Tamer ÖZMEN – Ahmet KOVANCI (TÜRKİYE)	Hüseyin BULGURCU (TÜRKİYE)
14.30 – 15.00	İrfan ONAY (TÜRKİYE)	Jean Le NOUVEL (FRANCE)	Ömer Faruk UYSAL (TÜRKİYE)	Abdil KUŞ – Rıdvan ARSLAN (TÜRKİYE)
15.00 – 17.00	CLOSING CEREMONY			

IVETA 98 KONFERANS PROGRAMI

31 AĞUSTOS 1998–PAZARTESİ

9:00-10:30	Kayıt–Çay / Kahve Arası	
10:30-12:00	AÇILIŞ KONUŞMALARI	
12:00-13:30	ÖĞLE	
13:30-15:00	Başkan:Jean D. MATHEWS	ORTAK OTURUM (KONFERANS SALONU A)
13:30-14:00	Paddy CARPENTER (BELGIUM)	Achieving Quality Through Transnational Co-operation ; Some European Perspectives
14:00-14:30	Johanna LASONEN (FINLAND)	Improving Quality of Vocational Education Through International Collaboration and Comparision
14:30-15:00	Stuart NIVEN (SCOTLAND-UK)	In Pursuit of Quality Vocational Education and Training : Some International Perspectives
15:00-15:30	Çay / Kahve Arası	

EŞ ZAMANLI OTURUM

	KONFERANS SALONU (A)	ODA B	ODA C	ODA D (T)
	Başkan:Dun HULL	Başkan:Leila LAHTİ	Başkan:Cavid KAVCAR	Başkan:İlhan SEZGİN
15:30-16:00	Kumar BASU (INDIA)	Carolyn PRESCOTT,Frank JENNINGS (U.S.A.)	Mark MERİCKEL - Dami DAUD (U.S.A. - INDONESIA)	Hüseyin ŞALVARLI (TÜRKİYE)
16:00-16:30	Edgar FARMER (U.S.A.)	Maria KRASKA (U.S.A.)	Lai FONG HO (HONG-KONG)	Coşkun BAYRAK - E. AĞAOĞLU (TÜRKİYE)
16:30-17:00	Derek BOARDMAN (HONG - KONG)	Julie GREVELE (U.S.A.)	Shyamal MAJUMDAR (INDIA)	Mehmet Nuri BODUR (TÜRKİYE)
17:00-17:30	David CHOU – Tien J. CHANG (TAIWAN)	Hsi Chi HSIAO - Jean Chia CHANG (TAIWAN)	S. MISTIKOĞLU - S. ÖRNEKTEKİN (TÜRKİYE)	İrfan ÇAĞLAR (TÜRKİYE)

IVETA 98 KONFERANS PROGRAMI

02 EYLÜL 1998, ÇARŞAMBA

	Başkan Kumar BASU	**Ortak Oturum**		
09.00 – 09.30	Dar CHIN RAU and C W LIAO (TAIWAN)	The Evulation and Survery to the Needs of Practical Facilities Required by Industrial Departmants for Voc. Schools in Taiwan		
09.30 – 10.00	Rita SEVER (ISRAEL)	Quality Assurance and Occupational Competence of Intercultural Bridgemaker in Vocational Education		
10.00 – 10.30	Philip LOOTS (SOUTH AFRICA)	Critical Analysis of the Restructing of Further Education for Employment and a Lifetime of Learning in New South Africa		
10.30 – 11.00	Çay / Kahve Arası			
	EŞ ZAMANLI OTURUM			
	KONFERANS SALONU A	ODA B	ODA C (T)	ODA D (T)
	Başkan Sabahattin BALCI	Başkan Nahmias SHLOMO	Başkan Maria KRASKA	Başkan Selçuk MISTIKOĞLU
11.00 – 11.30	Ritta Irisa REITERA, Paula MATTILA (FINLAND)	Riza GÜRBÜZ (TÜRKİYE)	Bora ÇAĞLAR (TÜRKİYE)	Hıfzı DOĞAN-Ferda AKGÜL Demet H. SOMUNCUOĞLU (TÜRKİYE)
11.30 – 12.00	Clarence E. BURDETTE (U.S.A.)	Tuula IKONEN (FINLAND)	Muhittin ŞİMŞEK - Birol AKYÜZ (TÜRKİYE)	Derya YILMAZ-Ahmet TURMEN (TÜRKİYE)
12.00 – 12.30	Rabi KAYKAYOĞLU (TÜRKİYE)	Matt NQUI and Ray GRANNALL (AUSTRALIA)	Nuran ZENGİNGÖNÜL - Müjgan BAYSAL) (TÜRKİYE)	Rasen YAMAÇLI - Leyla TOKMAN (TÜRKİYE)
12.30 – 13.30	ÖĞLE			
	EŞ ZAMANLI OTURUM			
	KONFERANS SALONU A	ODA B	ODA C (T)	ODA D (T)
	Başkan :Derek BOARDMAN	Başkan:Necdet BAŞTÜRK	Başkan :Veli ÇELİK	Başkan :Hüseyin TOKAY
13.30 – 14.00	Sebahattin BALCI (TÜRKİYE)	Raphael BERDUGA (FRANCE)	Seçil SATIR (TÜRKİYE)	Adil KAHRAMAN (TÜRKİYE)
14.00 – 14.30	Hayrettin KARCI (TÜRKİYE)	Charles SOL, M. BLOCH, J. M. PAJOT (FRANCE)	Tamer ÖZMEN - Ahmet KOVANCI (TÜRKİYE)	Hüseyin BULGURCU (TÜRKİYE)
14.30 – 15.00	İrfan ONAY (TURKYE)	Jean Le NOUVEL (FRANCE)	Ömer Faruk UYSAL (TÜRKİYE)	Abdil KUŞ - Ridvan ASLAN (TÜRKİYE)
15.00 – 17.00	DEĞERLENDİRME TOPLANTISI			

IVETA 98 KONFERANS PROGRAMI

01 EYLÜL 1998, SALI

	Başkan : Dar CHIN RAU	**O r t a k O t u r u m**		
09.00 – 09.30	Hıfzı DOĞAN (TÜRKİYE)	Impoving Quality of Vocational and Technical Education inTürkiye		
09.30 – 10.00	Dennis GUNNING (SCOTLAND U.K)	The Scottish Quality Management System		
10.00 – 10.30	Guenter ROESCH (GERMANY)	Accredation of Technical and Vocational Education and Training in Germany		
10.30 – 11.00	Çay / Kahve Arası			
	E Ş Z A M A N L I O T U R U M			
	KONFERANS SALONU A	ODA B	ODA C (T)	ODA D (T)
	Başkan:Johanna LASONEN	Başkan:Jeanette R. DAINES	Başkan :Kazım TÜLÜCÜ	Başkan :Hüseyin ÖĞÜT
11.00 – 12.30	PANEL PRESENTATION George COPA/Bruce JILK (U.S.A.) (U.S.A.) Sharon GROSSBACH (U.S.A.) Tom DC GRAAFF (NETHERLAND)	Harun BATIRBAYGİL (TÜRKİYE)	Necmettin YEŞİLMEN (TÜRKİYE)	Zerrin AYVAZ (TÜRKİYE)
		Seval FER (TÜRKİYE)	Perrin ÜNAL Bilhan BOYNUKISA (TÜRKİYE)	Aytekin ERDEM A.AÇIKGÖZ (TÜRKİYE)
		Şerif GÜNEŞ (TÜRKİYE)	Oğuz ZENGİNGÖNÜL (TÜRKİYE)	Neriman ARAL- Aynur BÜTÜN (TÜRKİYE)
12.30 – 13.30	ÖĞLE			
13.30 – 15.30	Başkan:Stuart NIVEN	**O R T A K O T U R U M**		
13.30 – 14.00	Dun HULL (U.S.A.)	Vocational Technical Education Reform In Tech. Prep What Is Succesful ? What Is Not Succesful?		
14.00 – 14.30	Anne L. MATTHEWS (U.S.A.)	Changing Face Of Vocational Education In the United States		
14.30 – 15.00	Jeanette DAINES (U.S.A.)	Quality Assurance Issues In Flexible Programming		
15.30 – 15.30	Mark MERICKEL (U.S.A.)	Designing World Wide Web Courses And Vocational Education And Training Programs		
15.30 – 16.00	Çay / Kahve Arası			
	E Ş Z A M A N L I O T U R U M			
	KONFERANS SALONU A	ODA B	ODA C (T)	ODA D (T)
	Başkan:Philip LOOTS	Başkan:Tuula LAMPINEN	Başkan:Doğan ABUKAY	Başkan:Asaf VAROL
16.00 – 16.30	Pan Wook KIM (SOUTH KOREA)	Robert NORTON (U.S.A.)	Gülgün BANGÜR (TÜRKİYE)	Mehmet SÜHEYL CIVAN (TÜRKİYE)
16.30 – 17.00	Chou CHIH YANG (TAIWAN)	Robert NORTON (U.S.A.)	Nermin FENMEN-Meltem FERENDECİ (TÜRKİYE)	Ruhi KILIÇ (TÜRKİYE)
17.00 – 17.30	Christopher PARKIN (ENGLAND)	Ayşe AKPINAR- Firuzan BİLSEL (TÜRKİYE)	Şeref KAVAK – Ganite KURT (TÜRKİYE)	Gülgün ERHUN- Ferda AKGÜL (TÜRKİYE)

AUTHOR INDEX

SURNAME	NAME	COUNTRY	PAGE
AKGÜL	Ferda	TÜRKİYE	448
AKPINAR	Aişe	TÜRKİYE	289
AKYÜZ	Birol	TÜRKİYE	398
ARAL	Neriman	TÜRKİYE	364
ARSLAN	Rıdvan	TÜRKİYE	517
AYVAZ	Zerrin	TÜRKİYE	358
AÇIKGÖZ	Ali F.	TÜRKİYE	404
AĞAOĞLU	Esmahan	TÜRKİYE	351
BALCI	Sabahattin	TÜRKİYE	59
BANGİR	Gülgün	TÜRKİYE	341
BASU	C. Kumar	INDIA	23
BATIRBAYGİL	Harun	TÜRKİYE	75
BAYRAK	Coşkun	TÜRKİYE	351
BAYSAL	Müjgan	TÜRKİYE	419
BERDUGO	Raphael	FRANCE	327
BİLSEL	Firuzan	TÜRKİYE	289
BLOCH	M.	FRANCE	150
BOARDMAN	Derek	HONG – KONG	35
BODUR	Mehmet Nuri	TÜRKİYE	371
BOYNUKISA	Bilhan	TÜRKİYE	438
BULGURCU	Hüseyin	TÜRKİYE	546
BURDETTE	Clarence E.	U.S.A.	304
BÜTÜN	Aynur	TÜRKİYE	364
CARPENTER	Paddy	BELGIUM	3
CHANG	Jen – Chia	TAIWAN	202
CHOU	David	TAIWAN	244
COPA	George	U.S.A.	250
ÇAĞLAR	Bora	TÜRKİYE	472
ÇAĞLAR	İrfan	TÜRKİYE	508
ÇİYAN	M. Süheyil	TÜRKİYE	456
DAINES	Jeanette	U.S.A.	117
DAUD	Darni	INDONESIA	88
DOĞAN	Hıfzı	TÜRKİYE	48-448
ERDEM	Aytekin	TÜRKİYE	404
ERHUN	Gülgün	TÜRKİYE	426
ERTÜRK	Mustafa Ali	TÜRKİYE	546
FARMER	Edgar	U.S.A.	269
FENMEN	Nermin	TÜRKİYE	433

FER	Seval	TÜRKİYE	81
FERENDECİ	Meltem	TÜRKİYE	433
FONG HO	Lai	HONG – KONG	190
GRAFF	Tom, De	NETHERLANDS	250
GRANNALL	Ray	AUSTRALIA	312
GREVELLE	Julie	U.S.A.	213
GROSSBACH	Sharon	U.S.A.	250
GUNNING	Dennis	SCOTLAND	132
GÜNEŞ	Şerif	TÜRKİYE	334
GÜRBÜZ	Rıza	TÜRKİYE	66-479
HSIAO	Hsi – Chi	TAIWAN	202
HULL	Dun	U.S.A.	181
IKONEN	Tuula	FINLAND	320
JENNINGS	Frank	U.S.A.	223
JILK	Bruce	U.S.A.	250
KARAMAN	Adil	TÜRKİYE	498
KAVAK	Şeref	TÜRKİYE	555
KARCI	Hayrettin	TÜRKİYE	465
KAYKAYOĞLU	C. Ruhi	TÜRKİYE	92
KILIÇ	Ruhi	TÜRKİYE	565
KIM	Pan Wook	SOUTH KOREA	109
KURT	Ganite	TÜRKİYE	555
KRASKA	Marie	U.S.A.	124
KUŞ	Abdil	TÜRKİYE	517
LASONEN	Joanna	FINLAND	10
LIAO	Chin Wen	TAIWAN	99
LOOTS	Philip	SOUTH AFRICA	28
MAJUMDAR	Shyamal	INDIA	297
MATILLA	Paula	FINLAND	175
MATTHEWS	Anne L.	U.S.A.	209
MERICKEL	Mark	U.S.A.	88
MISTIKOĞLU	Selçuk	TÜRKİYE	236
NIVEN	Stuart	SCOTLAND	17
NORTON	Robert	U.S.A.	275
NQUI	Matt	AUSTRALIA	312
ONAY	İrfan	TÜRKİYE	534
ÖNAL	Bilal	TÜRKİYE	371
ÖRNEKTEKİN	Sermin	TÜRKİYE	236
PAJOT	J. M.	FRANCE	150
PARKIN	Christopher	ENGLAND	156

PRESCOTT	Carolyn	U.S.A.	223
RAU	Dar Chin	TAIWAN	99
REITERA	Riita - Liisa	FINLAND	175
ROESCH	Guenter	GERMANY	144
SEVER	Rita	ISRAEL	164
SOL	Charles	FRANCE	150
SOMUNCUOĞLU	Demet	TÜRKİYE	448
SOYSAL	Abdullah	TÜRKİYE	371
ŞALVARLI	Hüseyin	TÜRKİYE	378
ŞATIR	Seçil	TÜRKİYE	411
ŞİMŞEK	Muhittin	TÜRKİYE	398
TOKMAN	Leyla	TÜRKİYE	385
TÜRMEN	Ahmet	TÜRKİYE	392
UYSAL	Ö.Faruk	TÜRKİYE	540
ÜNAL	Perin	TÜRKİYE	438
YAMAÇLI	Ruşen	TÜRKİYE	385
YANG	Chao Chih	TAIWAN	43
YEŞİLMEN	Necmettin	TÜRKİYE	524
YILMAZ	Derya	TÜRKİYE	392
ZENGİNGÖNÜL	Nuran	TÜRKİYE	419
ZENGİNGÖNÜL	Oğul	TÜRKİYE	488

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